MCMASTER UNIVERSITY ADULT HEMATOLOGY RESIDENCY TRAINING PROGRAM HANDBOOK

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MCMASTER UNIVERSITY HEMATOLOGY RESIDENCY TRAINING PROGRAM HANDBOOK

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Introduction to the McMaster University Adult Hematology Residency Training Program

Welcome to the McMaster University Hematology Residency Program!

Our training program entails two years of training that fulfills the requirements of the Royal College of Physicians and Surgeons of Canada for certification in Hematology. There are has eleven core rotations structured to provide exposure to both clinical hematology and laboratory medicine. Rotations are based at Hamilton sites with a major interest and expertise in the content area to be covered. Participating sites include Hamilton Health Sciences (McMaster University Medical Centre, Henderson General Hospital, and Hamilton General Hospital sites), St. Joseph's Healthcare, and the Juravinski Regional Cancer Centre.

The first year of training is primarily laboratory based and contains seven blocks. Four of these blocks are two months in duration and provide comprehensive laboratory training in Transfusion Medicine, Hemostasis/Coagulation, Red Cell Disorders, and Cellular Diagnostics. The remaining three blocks are predominantly clinical in nature and include a two month Thromboembolism rotation, a one month Pediatric Hematology Rotation and a one month Junior Hematology Attending Rotation. Concurrent with these rotations, residents also participate in two to three longitudinal clinics of four to six months duration each. In the second year of the program, there are two blocks that provide comprehensive clinical training including exposure to allogeneic and autologous peripheral stem cell and marrow transplantation, a four month elective block that allows for focused research or clinical elective experiences, as well as a one month Medical Oncology experience designed to fulfill training requirements of the Royal College of Physicians and Surgeons or Canada.

<table>
<tr><td rowspan="2">1st Year</td><td>Transfusion Medicine (2 months)</td><td>Red Cell Disorders (2 months)</td><td>Thrombosis (2 months)</td><td>Pediatric Hematology (1 month)</td><td>Junior Attending (1 month)</td><td>Cell Diagnostics (2 months)</td><td>Hemostasis/ Coagulation (2 months)</td></tr>
<tr><td colspan="3">Longitudinal Clinic #1 (6 months)</td><td colspan="4">Longitudinal Clinic #2 (6 months)</td></tr>
<tr><td>2nd Year</td><td colspan="2">Clinical Hematology MUMC (4 months)</td><td colspan="2">Elective (4 months)</td><td colspan="2">Clinical Hematology Henderson (3 months)</td><td>Medical Oncology (1 month)</td></tr>
</table>

During the two year training program, residents work closely with hematologists whose interests span diverse areas of clinical hematology, clinical research, and basic research. Basic science teaching is incorporated into all aspects of laboratory and clinical training, as well as during formal (Academic Half-Day) and informal teaching sessions. Biostatistics and critical appraisal are emphasized throughout the teaching program, including in Academic Half-Day sessions and Journal Clubs. All rotations, as well as Multidisciplinary Academic Half-Days, address ethical issues. Quality control and quality assurance are covered in both laboratory and clinical rotations.

The principle goal of the McMaster University Hematology Residency Training Program is to produce high calibre academic and clinical hematologists with expertise in the diagnosis and management of hematologic disorders, as well as the management of hematology laboratories. Many of our graduates have gone on to leadership positions at universities throughout North America.

More information about our program can be found on our web page www.fhs.mcmaster.ca/hemares.

Program Highlights

Faculty
Our greatest strength is our outstanding faculty. The division of Hematology and Thromboembolism at McMaster University has an international reputation and world-renowned researchers and clinicians are easily accessible to our residents. We have one of the largest faculty in Canada with over 40 members, all of who regard residency education and mentorship as a priority. Our residents, therefore, have access to the latest developments in the field, training in research methodology, and research opportunities.

Mentorship
Strong mentorship from the faculty (formal and informal) is provided to assist with issues pertaining to the training program, career guidance, and research.

Residency Mentorship Coordinator
The Mentorship Coordinator develops relationships with each of the residents and serves as a resource and advocate for them within the Residency Training Program. The Mentorship Coordinator is available to assist with any personal or professional difficulties that the residents may have and can offer confidential and independent information and advice, as well as help them access appropriate resources.

Resident Research Liaisons
The Division of Hematology and Thromboembolism is very productive in terms of both clinical and basic science research. Research projects are encouraged and supported in the first year and during the second year there is a four-month elective that can be used for research. These projects can include quality assurance projects, systematic reviews, clinical research, or basic science projects. All residents participate in research projects and many have presented their results at national and international meetings (e.g. American Society of Hematology, International Society on Thrombosis and Hemostasis, American Society of Clinical Oncology, Royal College of Physicians and Surgeons of Canada). To facilitate resident research, Resident Research Liaisons corresponding to key areas of hematology research at McMaster University have been appointed. These accomplished, approachable and enthusiastic researchers can help identify potential projects and supervisors and/or provide assistance when needed. Residents are introduced to these representatives early in the year and then expected to make initial contact with the Research Liaison most suited to their interests. The Program Director can also provide guidance on faculty expertise and research interests. Faculty members are happy to discuss potential opportunities with individual residents.

External Program Ombudsperson
In October 2009, the Hematology Residency Training Program appointed an external ombudsperson in order to provide residents with a neutral person to provide confidential advice or assistance in mediating program-related conflicts.

Exam Preparation
Preparation for the Internal Medicine Royal College Examination
During the PGY-4 year, many residents will be studying for their certification examinations in Internal Medicine. McMaster University has an active mentoring and practice examination system set up for such residents.

Preparation for the Hematology Royal College Examination
The Hematology Residency Program provides an OSCE/morphology examination each winter. Our residents also participate in the national practice examination held each summer and the on-line American Society of Hematology In-Training Examination. Most residents form study groups in preparation for the Royal College Examinations. Faculty members participate in organized review sessions for these study groups. In addition, informal "oral examinations" are integrated into seminar sessions to provide feedback on the resident's knowledge base.

Access to Laboratory Resources
We are fortunate in that there is excellent integration between the laboratory and clinical aspects of hematology. Unlike many centres, our laboratories are managed by members of our Division and we have easy access to resources and non-physician teaching staff. Several of our laboratories are provincial and national reference centres.

Funding for Scientific Conferences
Residents are fully funded to attend the annual meeting of the American Society of Hematology (ASH) or another alternate conference approved by the Program Director. For example, residents have been funded in past to attend the American Society of Clinical Oncology (ASCO) meeting. If available, additional funding is provided for residents presenting research at other conferences.

Resident Involvement in the Program
Residents are well-represented on the Hematology Residency Program Training Committee with both the Chief Resident and an elected resident included. The Program Director meets regularly with the residents. Resident feedback and suggestions are actively solicited. Residents complete anonymous faculty and rotation evaluation forms using a web-based system. At the end of the academic year, these evaluations are compiled into a summary report that is forwarded to the Residency Training Committee, the Director of the Hematology Residency Program, and the faculty member or Rotation Supervisor. An overall evaluation of faculty, rotations, and the program; along with suggestions for improvement, is compiled biannually by the residents as a group and forwarded to the Program Director and Residency Training Program Committee for review.

Overall Program Strength
In 2009, our program was reviewed by the Royal College of Physicians and Surgeons and received full approval. Our collaborative and collegial teaching faculty, the strong education focus of the division, and strong research environment with good resident mentorship were cited as strengths. No weaknesses were noted.

Post-Residency Training Opportunities
Because of our expertise, we are able to provide unique post-residency opportunities in thromboembolism, transfusion medicine, platelet immunology, research methodology and basic research. Our graduates are leading hematologists at institutions throughout North America.

Introduction to the McMaster University Division of Hematology and Thromboembolism

The Division of Hematology and Thromboembolism at McMaster University provides clinical care for patients with hematologic disorders at the four acute care sites in Hamilton. In addition, the Division has an active research program and has achieved world-wide recognition for its work in thrombosis and hemostasis, platelet physiology and function, blood transfusion therapy, the molecular biology of thalassemia and clinical trials in malignant hematological diseases. The members of our division are listed below.

- Dr. Donnie Arnold, Assistant Professor (Medicine)
- Dr. Uma Athale, Associate Professor (Pediatrics)
- Dr. Ronald Barr, Professor (Pediatrics)
- Dr. Shannon Bates, Associate Professor (Medicine); Director, Adult Hematology Residency Program
- Dr. Ann Benger, Associate Professor (Oncology)
- Dr. Morris Blajchman, Professor Emeritus (Pathology & Molecular Medicine)
- Dr. Anthony Chan, Professor (Pediatrics); Division Director, Pediatric Hematology
- Dr. Howard Chan, Assistant Professor (Medicine)
- Dr. Mark Crowther, Professor (Medicine); Director, Division of Hematology and Thromboembolism and Head of Service, St. Joseph's Healthcare
- Dr. Henry Ddungu, Visiting Professor (Medicine)
- Dr. James Douketis, Associate Professor (Medicine)
- Dr. John Eikelboom, Associate Professor (Medicine)
- Dr. Ronan Foley, Associate Professor (Pathology & Molecular Medicine)
- Dr. Graeme Fraser, Assistant Professor (Oncology)
- Dr. Jeffrey Ginsberg, Professor (Medicine)
- Dr. Moira Grant, Assistant Professor (Medicine)
- Dr. Peter Gross, Associate Professor (Medicine)
- Dr. Catherine Hayward, Professor (Pathology & Molecular Medicine)
- Ms. Nancy Heddle, Associate Professor (Medicine)
- Dr. Jack Hirsh, Professor Emeritus (Medicine)
- Dr. Peter Kagoma, Associate Clinical Professor (Medicine)
- Dr. Clive Kearon, Professor (Medicine)
- Dr. John Kelton, Professor (Medicine); Dean, Faculty of Health Sciences
- Dr. C. Tom Kouroukis, Associate Professor (Medicine); Head of Service, Henderson Hospital & Juravinski Cancer Centre
- Mr. John Lafferty, Lecturer (Medicine)
- Dr. Brian Leber, Professor (Medicine)
- Dr. Patricia Liaw, Associate Professor (Medicine)
- Dr. Wendy Lim, Assistant Professor (Medicine)
- Dr. Lori-Ann Linkins, Associate Professor (Medicine)
- Dr. Deborah Marcellus, Associate Professor (Oncology)
- Mr. Andrew McFarlane, Lecturer (Medicine)
- Ms. Karen Moffat, Lecturer (Medicine)
- Dr. Jane Moore, Assistant Clinical Professor (Medicine)
- Dr. Mohan Pai, Professor Emeritus (Pediatrics)
- Dr. Carol Portwine, Assistant Professor (Pediatrics)
- Dr. Peter Powers, Associate Professor (Pathology & Molecular Medicine)
- Dr. Cathy Ross, Associate Professor (Pathology & Molecular Medicine)
- Dr. Sam Schulman, Professor (Medicine); Head of Service, Hamilton General Hospital
- Dr. Fred Spencer, Professor (Medicine)
- Dr. Alex Spyropoulos, Associate Professor (Medicine)
- Dr. Marion Sternbach, Associate Clinical Professor (Medicine)
- Dr. Mike Trus, Assistant Professor (Pathology & Molecular Medicine)
- Dr. Marion Sternbach, Associate Clinical Professor (Medicine)
- Dr. Mike Trus, AssociateProfessor (Pathology & Molecular Medicine)
- Dr. Graham Turpie, Professor Emeritus (Medicine)
- Dr. Irwin Walker, Professor (Medicine); Head of Service, McMaster University Medical Centre

Members of the Division of Hematology and Thromboembolism (Continued)

- Dr. Ted Warkentin, Professor (Pathology & Molecular Medicine)
- Dr. Parveen Wasi, Professor (Medicine)
- Dr. John Waye, Professor (Pathology & Molecular Medicine)
- Dr. Kathryn Webert, Assistant Professor (Medicine)
- Dr. Jeffrey Weitz, Professor (Medicine)
- Dr. Eva Werstiuk, Professor Emeritus (Medicine)
- Dr. Geoff Werstuck, Assistant Professor (Biochemistry & Biomedical Science)
- Dr. Susan Whittaker, Assistant Clinical Professor (Medicine)

People and Committees in the Adult Hematology Residency Program

Residency Training Program Director

Dr. Shannon Bates (batesm@mcmaster.ca)
Program Assistant: Ms. Cheryl Kukhta (905 521-2100, ext. 73928; kukhta@mcmaster.ca)

Residency Mentorship Coordinator

Dr. Donnie Arnold (arnold@mcmaster.ca)
Administrative Assistant: Ms. Genie Leblanc (905 521-2100, ext. 76305; glebla@mcmaster.ca)

The role of the Residency Mentorship Coordinator exists outside of the evaluative framework of the Hematology Residency Training Program. The Mentorship Coordinator develops relationships with each of the residents and serves as a resource and an advocate for them within the Residency Training Program. The Mentorship Coordinator is available to assist with any personal or professional difficulties that the residents may have and can offer confidential and independent information and advice, as well as help them access appropriate resources.

External Program Ombudsperson

Dr. Nalin Amin; Assistant Professor, Department of Surgery; Director, Surgical CORE Program (amin@mcmaster.ca; 905 521-2100, ext. 43963)

In October 2009, the Hematology Residency Training Program appointed an external ombudsperson so that residents would have a neutral position to provide confidential advice or assistance in mediating program-related conflicts.

Discipline Director, Hematology and Thromboembolism

Dr. Mark Crowther (crowthrm@mcaster.ca)
Administrative Assistant: Ms. Gail Campbell; campb@mcmaster.ca)

Residency Education Training Committee

The McMaster University Hematology Residency Education Program is a collaborative effort, guided by the Program Director, the Discipline Director of Hematology, and the Residency Education Training Committee. This Committee assists the Program Director in the planning, organization and supervision of the Hematology Residency Training Program. It ensures that the program meets the standards of accreditation; reviews the program to assess the quality of the educational experience and adequacy of resources; fosters resident research; evaluates the performance of teaching faculty; assists the Program Director in the selection of the Chief Hematology Resident, Rotation Supervisors, Residency Mentorship Coordinator, External Program Ombudsperson, and Site Representatives; assists the Division Director in the selection of the Program Director; selects candidates for admission to the program, and evaluates and promotes residents in the program. The Committee meets quarter-annually, at the call of the Program Director. It provides input to and receives input from the Regional Hematology Group (all Hematology Faculty and relevant Laboratory Managers), the Regional Clinical Hematology Group and the Regional Laboratory Hematology Group. The Residency Training Program Director sits on the latter two committees to ensure that potential impacts related to residency education are considered. The Residency Education Training Committee is comprised of the Residency Training Program Director, Rotation Supervisors, Site Coordinators, the Chief Hematology Resident, and an additional Resident Representative elected by the Trainees.

Rotation Supervisors

The Training Program has a dedicated faculty member responsible for coordinating each rotation.

Cell Diagnostics Rotation

Dr. Mike Trus (trus@hhsc.ca)
Administrative Assistant: Ms. Nautasha Hoyle (905 527-4322, ext. 42035; hoyle@hhsc.ca during maternity leave will be Ms. Teresa Brown at brownte@hhsc.ca)

Hemostasis/Coagulation Rotation

Dr. Kathryn Webert (webertk@mcmaster.ca)
Administrative Assistant: Ms. Karen Murdoch (905 521-2100, ext. 76274; murdoc@mcmaster.ca)
Assistant Supervisor: Ms. Karen Moffat (moffat@hhsc.ca)

Rotation Supervisors (Continued)

Junior Attending Rotation

Dr. Wendy Lim (limwp@mcmaster.ca) – Maternity Leave from July 2009 – January 2010
Dr. Howard Chan (chanh@mcmaster.ca) – during Dr. Lim's Maternity Leave
Administrative Assistant: Ms. Gail Campbell (905 521-6024; campb@mcmaster.ca)

Medical Oncology Rotation

Dr. Deborah Marcellus (deb.marcellus@jcc.hhsc.on.ca)
Administrative Assistant: Ms. Leanne Pittaway (905 378-9711; leanne.pittaway@jcc.hhsc.ca)

Pediatrics Rotation

Dr. Carol Portwine (portwc@mcmaster.ca)
Administrative Assistant: Ms. Wendy Armstrong (905 521-2100, ext. 75625; warmst@mcmaster.ca)

Red Cell Disorders Rotation

Andrew McFarlane (mcfarand@hhsc.ca)
Assistant Supervisor: Dr. Wendy Lim (limwp@mcmaster.ca) – Maternity Leave from July 2009 to January 2010
Assistant Supervisor: Dr. Howard Chan (chanh@mcmaster.ca) – during Dr. Lim's Maternity Leave
Administrative Assistant: Ms. Gail Campbell (905 521-6024; campb@mcmaster.ca)

Thromboembolism Rotation

Dr. Peter Gross (pgross@thrombosis.hhscr.org)

Transfusion Medicine Rotation

Nancy Heddle (heddlen@mcmaster.ca)
(905 525-9140, ext. 22126)

Clinical Hematology Rotation – McMaster University Medical Centre

Dr. Irwin Walker (walkeri@mcmaster.ca)
Administrative Assistant: Kathy Kucemba (905 521-2100, ext. 76384; kucembak@mcmaster.ca)

Clinical Hematology Rotation – Henderson General Hospital

Dr. Deborah Marcellus (deb.marcellus@jcc.hhsc.on.ca)
Administrative Assistant: Leanne Pittaway (905 378-9711; leanne.pittaway@jcc.hhsc.ca)

Site Coordinators

The Training Program also has program coordinators at each hospital site that are responsible for scheduling resident on-call, orientation of residents to on-call duties, ensuring adequate resident facilities, and facilitating medical resident rotations and clinic experiences.

McMaster University Medical Centre

Dr. Irwin Walker (walkeri@mcmaster.ca)
Administrative Assistant: Kathy Kucemba (905 521-2100, ext. 76384; kucembak@mcmaster.ca)

Henderson General Hospital

Dr. Deborah Marcellus (905 378-9711; deb.marcellus@jcc.hhsc.on.ca)
Administrative Assistant: Ms. Leanne Pittaway (905 378-9711; leanne.pittaway@jcc.hhsc.ca)

St. Joseph's Healthcare

Dr. Wendy Lim (limwp@mcmaster.ca) – Maternity Leave from July 2009 to January 2010
Dr. Howard Chan (chanh@mcmaster.ca) during Dr. Lim's Maternity Leave
Administrative Assistant: Ms. Gail Campbell (campb@mcmaster.ca)

Hamilton General Hospital

Dr. John Eikelboom (eikelbj@mcmaster.ca)
Administrative Assistant: Lynda Hill (hillynd@hhsc.ca)

OSCE Coordinator

Dr. Graeme Fraser (graeme.fraser@jcc.hhsc.ca)
Assistant Coordinator: Dr. Donnie Arnold (arnold@mcmaster.ca)

Journal Club Supervisor

Dr. Wendy Lim (limwp@mcmaster.ca) – Maternity Leave from July 2009 to January 2010
Dr. Howard Chan (chanh@mcmaster.ca) – During Dr. Lim's Maternity Leave
Administrative Assistant: Ms. Gail Campbell (campb@mcmaster.ca)

Resident Representatives

Chief Hematology Resident

The Chief Resident in hematology plays an important role in the residency program. This position is appointed by the Hematology Residency Training Program Committee annually. The responsibilities of the Chief Resident include the following: coordinating academic and teaching activities (including Academic Half-Day), representing residents on the Hematology Residency Training Program Committee and participating in the selection of new residents to the program. Each year, the Chief Hematology resident is also encouraged to take on one additional special initiative (e.g. organizing an additional educational event or retreat, creating a CD library of landmark articles, etc).

Elected Resident Representative

A resident representative (separate from the Chief Resident) is elected by the hematology residents. This resident provides important input and representation to the Residency Training Committee.

Faculty of Health Sciences

Postgraduate Medical Education

The Postgraduate Medical Education Program, under the leadership of the Assistant Dean of Postgraduate Medical Education, oversees all residency programs. The Postgraduate Medical Education Program is responsible for coordination and implementation of educational policies within the Faculty of Health Sciences that affect postgraduate medial trainees, in keeping with the guidelines of national accrediting bodes (e.g. The Royal College of Physicians and Surgeons of Canada) and provincial licensing authorities (e.g. The College of Physicians and Surgeons of Ontario). More information about the Postgraduate Medical Education Program's policies (e.g. vacation, evaluation of residents, supervision of residents, appeals) can be found at their website www.fhs.mcmaster.ca/postgrad and on Medportal (http://login/medportal.ca/).

Assistant Dean, Postgraduate Medical Education

Dr. Mark Walton (905 525-9140, ext. 22116; fax: 905 527-2707)

Administrator, Postgraduate Medical Education

Ms. Sharon Cameron (905 525-9140, ext. 22116; fax: 905 527-2707)

Administrative Assistant to the Assistant Dean and Administrator

Ms. Robyn Crozier (905 525-9140, ext. 22116; fax: 905 527-2707)

Location: Michael G. DeGroote Centre for Learning, Room 3113
1200 Main Street West

Internal Medicine Core and Subspecialty Training Program

In Internal Medicine Training Program is responsible for overseeing the Subspecialty Residency Programs, in addition to the Core Residency Training Program.

Program Director, Internal Medicine Residency Training Program

Dr. Parveen Wasi (905 521-2100, ext. 76396; fax: 905 529-0666)

Program Coordinator, Internal Medicine Residency Training Program

Ms. Gail Trevisani (905 521-2100, ext. 76396; fax: 905 529-0666)

Administrative Assistants, Internal Medicine Residency Training Program

Ms. Mary-beth Ribble (905 521-2100, ext. 76388; fax: 905 529-0666)
Ms. Judith McArthur Dawson (905 521-2100, ext. 76358; fax: 905 529-0666)

Location: Health Sciences Centre, Room 3W10B
1200 Main Street West

Participating Health Centres

The health centres affiliated with McMaster University serve more than 2,100,000 people and provide care to Central West and North-Western Ontario.

Hamilton Health Sciences

Hamilton Health Sciences includes Hamilton General Hospital, Henderson Hospital, McMaster University Medical Centre, McMaster Children's Hospital, Chedoke Hospital, and Juravinski Cancer Centre.

Hamilton General Hospital

The Hamilton General Hospital is a tertiary care centre that is the regional centre of excellence for cardiovascular care, neurosciences, as well as trauma and burn treatment. This hospital houses one of the province's few Burn Units and Integrated Stroke Unit caring for acute and rehabilitation patients. The Population Health Institute at the Hamilton General conducts and coordinates international clinical trials. Portions of the Thromboembolism and Transfusion Medicine rotations occur at this site.

Henderson General Hospital

The Henderson Hospital is the region's centre of excellence for cancer and orthopedic care. It provides acute inpatient and palliative care, as well as diagnostic services, to support the Juravinski Cancer Centre. The Henderson Research Centre is home to the Clinical Trials Methodology Unit and the Clinical Thromboembolism and Experimental Thrombosis and Atherosclerosis programs. The Henderson Clinical Hematology and Cell Diagnostics rotations, as well as part of the Thromboembolism rotation, take place at this hospital.

McMaster University Medical Centre (MUMC)

MUMC is located next to McMaster University in west Hamilton. MUMC delivers a wide range of health services, including high risk obstetrics and gynecology. The MUMC Clinical Hematology and Hemostasis rotations occur at this site, as do most of the Transfusion Medicine and Red Cell Diagnostics rotations. Pediatric Hematology is based at the McMaster Children's Hospital. Part of the Thromboembolism rotation occurs at this site.

Juravinski Cancer Centre

The Juravinski Cancer Centre, located next to the Henderson Hospital on the Hamilton mountain, is the most comprehensive centre for cancer care and research in Central South/Central West Ontario. In addition to providing radiation and chemotherapy treatment for patients, the Juravinski Cancer Centre also offers genetic and psychosocial counselling, nutritional services, education, and prevention and screening programs. The Henderson Clinical rotation's ambulatory clinic experience occurs at the Juravinski Cancer Centre, as does the Medical Oncology Rotation.

St. Joseph's Healthcare

St. Joseph's Healthcare has four locations including the Charlton, Mountain, Stoney Creek and Brantford campuses. The Charlton site is a 600-plus bed tertiary care teaching centre that is the regional centre for kidney transplantation and is home to the Firestone Institute for Respiratory Health, the Centre for Minimal Access Surgery, the Brain Body Institute, and the Father Sean O'Sullivan Research Centre. The Junior Attending Rotation and part of the Red Cell Disorders rotation occurs at this site.

National and Provincial Organizations

The Royal College of Physicians and Surgeons of Canada (RCPSC)

The Royal College is a national private, non-profit organization that oversees the medical education of specialists in Canada. In addition to prescribing the requirements for specialty education and accrediting specialty residency programs, the College assesses the acceptability of resident education, conducts certifying examinations and assures a high standard of specialist care through its Maintenance of Certification Program.

774 Echo Drive, Ottawa ON Canada K1S 5N8
Telephone: 613-730-8177; toll free 1-800-668-3740
Fax: 613-730-8830
www.rcpsc.medical.org

The College of Physicians and Surgeons of Ontario (CPSO)

The CPSO is responsible for licensing all physicians (including residents), setting and maintaining standards of practice, and investigating complaints about physicians. In order to practice as a resident, you must have an educational or independent practice license from the CPSO. This is renewed annually.

80 College Street, Toronto, Ontario, Canada M5G 2E2
General Inquiries: 416-967-2603 or toll free: 1-800-268-7096 ext. 306
Physician Advisory Service: 416-967-2606 (Physicians only)
www.cpso.on.ca

The Canadian Medical Protective Association (CMPA)

Membership in the CMPA is mandatory for all residents.

PO Box 8225, Station "T", Ottawa, Ontario K1G 3H7
Telephone: 1-800-267-6522
Fax: 1-877-763-1300
www.cmpa-acpm.ca/

Professional Association of Interns and Residents of Ontario (PAIRO)

PAIRO is the official representative voice for all medical doctors training in the province. Among PAIRO's primary functions is the negotiation and enforcement of the collective agreement covering terms and conditions of employment with the teaching hospitals. PAIRO also provides residents with information about transitioning to practice and has developed important resources for resident well-being.

1901-400 University Avenue, Toronto, Ontario M5G 1S5
Telephone: 1-877-979-1183 (toll-free)
Fax: 1-416-595-9778
E-mail: pairo@pairo.org
www.pairo.org

PAIRO Helpline: 1-866 HELP DOC
The PAIRO Helpline is available for residents in distress or others concerned about a resident. It is available 24 hours a day and is 100% confidential.

American Society of Hematology (ASH)

Associate Membership entitles you to a subscription of Blood, the Blood supplement, a waiver of Society dues, and reduced cost for meeting registration. Further details can be found at www.hematology.org.

Canadian Society of Hematology

www.candianhematologysociety.org

Royal College of Physicians and Surgeons of Canada Documents

The next few pages contain information from the Royal College of Physicians and Surgeons of Canada of particular relevance to residents in hematology training programs. The "Specific Standards of Accreditation for Residency Programs in Adult Hematology" (beginning on page 13) outlines Canada-wide accreditation standards for individual elements of Adult Hematology Residency Training Programs. In 2009, our program was reviewed by the Royal College of Physicians and Surgeons and received full approval. Our collaborative and collegial teaching faculty, the strong education focus of the division, and strong research environment with good resident mentorship were cited as strengths. No weaknesses were noted.

The "Objectives of Training and Specialty Training Requirements in Hematology" can be found on page 17. These standards ensure competence in treating hematological disorders and in the management of hematologic laboratories. Specialty Training Requirements are outlined on page 27. A description of the format of the Comprehensive Examination in Hematology is contained on page 29.

Our Program's structure, as well as our Goals and Objectives (page 29) are consistent with those of the Royal College.

Additional information about the Royal College of Physicians and Surgeons of Canada and its requirements and deadlines can be found at on its website www.rcpsc.medical.org.

The Royal College of Physicians & Surgeons of Canada
Le Collège royal des médecins et chirurgiens du Canada

Office of Education Bureau de l'éducation

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SPECIFIC STANDARDS OF ACCREDITATION FOR RESIDENCY PROGRAMS IN ADULT HEMATOLOGY

2009

INTRODUCTION

A university wishing to have an accredited program in Hematology must also sponsor an accredited program in Internal Medicine.

The purpose of this document is to provide program directors and surveyors with an interpretation of the general standards of accreditation as they relate to the accreditation of programs in Hematology. This document should be read in conjunction with the *General Standards of Accreditation*, the *Objectives of Training* and the *Specialty Training Requirements in Hematology*.

STANDARD B.1: ADMINISTRATIVE STRUCTURE

There must be an appropriate administrative structure for each residency program.

Please refer to Standard B.1 in the *General Standards of Accreditation* for the interpretation of this standard.

STANDARD B.2: GOALS AND OBJECTIVES

There must be a clearly worded statement outlining the goals of the residency program and the educational objectives of the residents.

The general goals and objectives for Hematology are outlined in the *Objectives of Training* and *Specialty Training Requirements in Hematology*. Based upon these general objectives each program is expected to develop rotation specific objectives suitable for that particular program, as noted in Standard B.2 of the *General Standards of Accreditation*.

STANDARD B.3: STRUCTURE AND ORGANIZATION OF THE PROGRAM

There must be an organized program of rotations and other educational experiences, both mandatory and elective, designed to provide each resident with the opportunity to fulfill the educational requirements and achieve competence in Hematology.

The structure and organization of each accredited program in Hematology must be consistent with the specialty requirements as outlined in the *Objectives of Training* and *Subspecialty Training Requirements in Hematology*.

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In addition to offering the components noted in the subspecialty training requirements, all accredited programs in Hematology should offer community-based learning experiences.

Residents must be provided with increasing individual professional responsibility, under appropriate supervision, according to the level of training, ability and experience, in both the clinical and laboratory aspects of the subspecialty.

Please refer to the Subspecialty Training Requirements for a detailed description.

STANDARD B.4: RESOURCES

There must be sufficient resources including teaching faculty, the number and variety of patients, physical and technical resources, as well as the supporting facilities and services necessary to provide the opportunity for all residents in the program to achieve the educational objectives and receive full training as defined by the specialty training requirements in Hematology.

In those cases where a university has sufficient resources to provide most of the training in Hematology but lacks one or more essential elements, the program may still be accredited provided that formal arrangements have been made to send residents to another accredited residency program for periods of appropriate prescribed training.

Learning environments must include experiences that facilitate the acquisition of knowledge, skills, and attitudes relating to aspects of age, sexual orientation, gender, culture, ethnicity and ethics appropriate to Hematology.

1. Teaching Faculty

There must be a sufficient number of qualified teaching faculty to supervise residents at all levels and in all aspects of Hematology and provide teaching in the basic and clinical sciences and the laboratory component related to hematological diseases.

2. Number and Variety of Patients

There must be a sufficient number and variety of patients available on a consistent basis to meet the educational needs of the residents in the program.

3. Clinical Services Specific to Hematology

a) In-Patient

There must be adequate numbers of patients available to provide opportunities for training and experience in the clinical evaluation and treatment of known and suspected diseases relevant to the subspecialty of Hematology including acute leukemia, lymphoproliferative disorders and bone marrow failure states.

b) Consultation

The program must provide residents experience in the provision of an in-patient and out-patient general hematology consultative service to primary care physicians and other disciplines. It is desirable that residents participate with faculty in the provision of expert advice to community organizations and government institutions such as transfusion services and the Canadian Hemophilia Society.

c) Ambulatory

In-patient and out-patient teaching services should be integrated as much as possible, in order to provide continuity of care and observation of patients both in and out of hospital. Programs must offer an experience in a longitudinal clinic. Organized multidisciplinary clinics must be available to provide opportunities for investigation and follow-up of hematology patients. Special clinics, such as hemophilia or thromboembolism and pediatric hematology clinics, provide an important component of the training. There should be out-patient facilities for the administration of chemotherapy and the performance of diagnostic and therapeutic procedures.

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d) Pediatric Hematology

There must be adequate numbers of patients available to provide opportunities for training and experience in the clinical evaluation and treatment of known and suspected diseases relevant to pediatric hematology in both in-patient and out-patient settings.

e) Medical Oncology

There must be adequate numbers of patients available to provide opportunities for training and experience in the clinical evaluation and treatment of known and suspected solid tumours in out-patient settings.

f) Stem Cell Transplantation

Residents must have exposure to allogeneic and autologous stem cell transplantation including initial patient assessment, donor selection, stem cell collection and infusion, in-patient management and management of graft-versus-host disease and other complications.

g) Community Learning Experiences

There must be access to community health care systems or institutions that serve the cancer patient such as palliative care units (hospice), home care, visiting nurse surveillance and care, and community physicians. Residents must interact directly with these providers to marshal community resources for the continuing care of cancer patients.

h) Intensive Care Units

The program must provide the opportunity for residents to gain consultation experience for critically ill patients with primary or secondary hematological problems.

i) Emergency Departments

There must be opportunities for residents to manage acute hematological problems in the emergency setting.

4. Supporting Services - Clinical, Diagnostic, Technical

a) Laboratory Components of the Program

Clinical laboratory facilities must be adequately staffed with qualified medical supervision and provide a full range of hematological tests. The volume and variety of work must be considered adequate for training by the specialty committee of the Royal College. In hospitals where clinical and laboratory hematology are separately administered, there must be a high degree of cooperation and liaison between clinical and laboratory hematology so that the resources of both divisions are utilized effectively in the education of residents.

The program must provide opportunities for residents to gain experience in:

- general laboratory hematology
- flow cytometry
- cytogenetic analysis
- molecular testing and diagnostics.
- coagulation
- transfusion medicine
- interpretation of peripheral blood films, bone marrow aspirates and biopsies
- the histopathology of the lymph nodes and spleen
- histocompatibility testing
- hemoglobinopathy

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b) Liaison with other Specialties and Subspecialties

There must be appropriate liaison with teaching services in Hematological Pathology, Medical Oncology and General or Anatomical Pathology.

STANDARD B.5: CLINICAL, ACADEMIC AND SCHOLARLY CONTENT OF THE PROGRAM

The clinical, academic and scholarly content of the program must be appropriate for university postgraduate education and adequately prepare residents to fulfil all of the roles of the specialist. The quality of scholarship in the program will, in part, be demonstrated by a spirit of enquiry during clinical discussions, at the bedside and in clinics, and in seminars, rounds, and conferences. Scholarship implies an in-depth understanding of basic mechanisms of normal and abnormal states and the application of current knowledge to practice.

Please refer to Standard B.5 in the *General Standards of Accreditation,* the *Objectives of Training,* the *Specialty Training Requirements in Hematology* and the *CanMEDS Framework* for the interpretation of this standard. Each program is expected to develop a curriculum for each of the CanMEDS roles, which reflects the uniqueness of the program and its particular environment. Specific additional requirements are listed below.

1. Medical Expert

The *General Standards of Accreditation* apply to this section.

2. Communicator

In addition to the *General Standards of Accreditation*, the following requirements apply:

The resident must be provided with opportunities to develop skills in communication with the patient and family and in providing continuing care for the patient with progressive illness and end of life care.

3. Collaborator

The *General Standards of Accreditation* apply to this section.

4. Manager

The *General Standards of Accreditation* apply to this section

5. Health Advocate

In addition to the *General Standards of Accreditation*, the program must provide opportunities for the resident to understand the mechanisms available for funding of expensive medications and to advocate for such agents for their patients as well as to understand the critical importance of sufficiency and safety of the blood supply.

6. Scholar

In addition to the *General Standards of Accreditation*, the program must provide opportunities for the resident to complete a scholarly project including study design, data collection, analysis and communication of results.

7. Professional

The *General Standards of Accreditation* apply to this section.

STANDARD B.6: EVALUATION OF RESIDENT PERFORMANCE

There must be mechanisms in place to ensure the systematic collection and interpretation of evaluation data on each resident enrolled in the program.

Please refer to Standard B.6 in the *General Standards of Accreditation* for the interpretation of this standard.

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OBJECTIVES OF TRAINING IN HEMATOLOGY

2009

This document applies to those who begin training on or after July 1, 2009.
(Please see also the "Policies and Procedures.")

DEFINITION
Hematology is that branch of medicine concerned with the clinical and laboratory investigation, diagnosis and medical management of diseases of the blood and blood-forming tissues.

GOALS
Upon completion of training, a resident is expected to be a competent specialist in Hematology capable of assuming a consultant's role in the subspecialty. The resident must acquire a working knowledge of the theoretical basis of the subspecialty, including its foundations in the basic medical sciences and research.
Only candidates certified by the Royal College of Physicians and Surgeons of Canada in Internal Medicine may be eligible for certification in Hematology.
Residents must demonstrate the requisite knowledge, skills, and attitudes for effective patient-centered care and service to a diverse population. In all aspects of specialist practice, the graduate must be able to address issues of gender, sexual orientation, age, culture, ethnicity and ethics in a professional manner.

HEMATOLOGY COMPETENCIES:
At the completion of training, the resident will have acquired the following competencies and will function effectively as a:

Medical Expert
Definition: As *Medical Experts*, Hematologists integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centered care. *Medical Expert* is the central physician Role in the CanMEDS framework.

Medical Expert is the central physician Role in the CanMEDS framework.

Key and Enabling Competencies: Hematologists are able to…

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care

1.1. Perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional

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Key and Enabling Competencies: Hematologists are able to…

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care

1.1. Perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional

1.2. Demonstrate effective use of all CanMEDS competencies relevant to Hematology

1.2.1. Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence

1.2.2. Contribute to the enhancement of quality care and patient safety in their practice, integrating the available best evidence and best practices

1.3. Identify and appropriately respond to relevant ethical issues arising in hematological patient care

1.4. Demonstrate the ability to prioritize professional duties when faced with multiple patients and problems

1.5. Demonstrate compassionate and patient-centered care

1.6. Recognize and respond to the ethical dimensions in medical decision-making

1.7. Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice:

2.1. Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to benign and malignant hematological disorders

2.1.1. Describe normal and disordered hematopoiesis, including changes related to age from the fetus to the elderly

2.1.2. Demonstrate an understanding of genetics and cytogenetics pertaining to Hematology

2.1.3. Describe mechanisms of oncogenesis

2.1.4. Describe the principles of cancer epidemiology, staging and prognostic factors

2.1.5. Describe the mechanisms of action of chemotherapeutic agents, targeted agents and radiation

2.1.6. Describe the principles of molecular testing including the polymerase chain reaction (PCR)

2.1.7. Describe normal and disordered immune function

2.1.8. Describe the normal and disordered pathways of hemostasis

2.1.9. Describe the normal and disordered red cell structure and function

2.1.10. Describe the red blood cell and platelet antigen systems and the principles of transfusion medicine

2.1.11. Describe the Human Leucocyte Antigen (HLA) system

2.1.12. Demonstrate basic knowledge of lymph node and splenic pathology

2.1.13. Demonstrates an awareness of the common Hematological disorders occurring in childhood

2.1.14. Describe the principles of laboratory testing including automated blood cell counters, flow cytometry and coagulation assays

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3. Perform a complete and appropriate assessment of a patient

3.1. Identify and explore issues to be addressed in a patient encounter effectively, including the patient's context and preferences

3.2. Elicit a history that is relevant, concise and accurate to context and preferences for the purposes of prevention and health promotion, diagnosis and/or management

3.3. Perform a focused physical examination that is relevant and accurate for the purposes of prevention and health promotion, diagnosis and/or management

3.4. Diagnose patients appropriately using currently accepted diagnostic criteria

3.5. Evaluate diseases appropriately using currently accepted staging systems and prognostic indices

3.6. Select medically appropriate investigative methods in a resource-effective and ethical manner

3.7. Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans

4. Use preventive and therapeutic interventions effectively

4.1. Implement an effective management plan in collaboration with a patient and their family

4.2. Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the Hematological practice including:

- 4.2.1. Vaccination and/or immunization
- 4.2.2. Transfusion
- 4.2.3. Chemotherapy
- 4.2.4. Antibody therapy and other targeted therapy
- 4.2.5. Radiation
- 4.2.6. Immunosuppresive agents
- 4.2.7. Anticoagulants, thrombolytic agents, and hemostatic agents
- 4.2.8. Stem cell transplantation including patient assessment, donor selection, stem cell collection and infusion, and management of complications including graft-versus-host disease
- 4.2.9. Apheresis
- 4.2.10. Supportive care including antiemetics, growth factors, antibiotics, and analgesics

4.3. Ensure appropriate informed consent is obtained for therapies including transfusion and chemotherapy

4.4. Manage late complications of therapy including recognition of the challenges faced by cancer survivors

4.5. Ensure patients receive appropriate end-of-life care

4.6. Manage the following in a timely, logical, ethical, and efficient manner:

- 4.6.1. Qualitative and quantitative disorders of:
  - 4.6.1.1. Red blood cells
  - 4.6.1.2. Neutrophils
  - 4.6.1.3. Eosinophils, basophils, and monocytes
  - 4.6.1.4. Lymphocytes

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4.6.2. Monoclonal gammopathy

4.6.3. Lymphadenopathy

4.6.4. Splenomegaly and splenic dysfunction

4.6.5. Quantitative and qualitative disorders of platelets

4.6.6. Bleeding disorders (congenital and acquired)

4.6.7. Thrombotic disorders (congenital and acquired)

4.6.8. Disorders of vascular function (congenital and acquired)

4.6.9. Allo-immune and autoimmune cytopenias

4.6.10. Transfusion reactions

4.6.11. Patients with known or suspected Hematological malignancies including:

4.6.11.1. Lymphoproliferative disorders

4.6.11.2. Leukemias

4.6.11.3. Plasma cell dyscrasias

4.6.11.4. Other Hematological malignancies

4.6.12. Patients with known or suspected stem cell disorders including:

4.6.12.1. Myeloproliferative disorder

4.6.12.2. Aplastic anemia

4.6.12.3. Myelodysplasia

4.6.13. Hematological emergencies

5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic

5.1. Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to Hematology, including:

5.1.1. Bone marrow aspirate and biopsy

5.1.2. Lumbar puncture

5.1.3. Interpretation of blood films, bone marrow aspirates and biopsies

5.2. Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to their practice

5.2.1. Administration of intrathecal chemotherapy via lumbar puncture and Ommaya reservoir

5.2.2. Central venous catheter management

5.2.3. Phlebotomy

5.2.4. Supervision of Apheresis

5.2.5. Supervision of stem cell collection and infusion

5.2.6. Supervision of transfusion

5.2.7. Supervision of chemotherapy

5.3. Obtain informed consent for all procedures

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5.4. Describe and discuss potential adverse effects

5.5. Ensure adequate follow-up is arranged for procedures performed

6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

6.1. Demonstrate insight into their own limitations of expertise

6.2. Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care

6.3. Arrange appropriate follow-up care services for a patient and their family

Communicator
Definition:
As *Communicators*, Hematologists effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

Key and Enabling Competencies: Hematologists are able to…

1. Develop rapport, trust, and ethical therapeutic relationships with patients and families

1.1. Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes

1.2. Establish positive relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy

1.3. Respect patient confidentiality, privacy and autonomy

1.4. Listen effectively

1.5. Be aware of and responsive to nonverbal cues

1.6. Facilitate a structured clinical encounter effectively

1.7. Communicate effectively with patients and families about end of life issues including the transition from treatment with curative intent to palliative/supportive therapy and withdrawal of therapy such as transfusions and/or chemotherapy

2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals

2.1. Gather information about a disease and about a patient's beliefs, concerns, expectations and illness experience including acceptance of blood products

2.2. Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals

3. Convey relevant information and explanations accurately to patients and families, colleagues and other professionals

3.1. Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making

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4. Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care

4.1. Identify and explore problems to be addressed from a patient encounter effectively, including the patient's context, responses, concerns, and preferences

4.2. Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making

4.3. Encourage discussion, questions, and interaction in the encounter

4.4. Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care

4.5. Address challenging communication issues effectively, such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding

5. Convey effective oral and written information about a medical encounter

5.1. Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans
5.2. Present verbal reports of clinical encounters and plans
5.3. Present medical information to the public or media about a medical issue

Collaborator

Definition:

As *Collaborators*, Hematologists effectively work within a health care team to achieve optimal patient care.

Key and Enabling Competencies: Hematologists are able to…

1. Participate effectively and appropriately in an interprofessional health care team

1.1. Describe the specialist's roles and responsibilities to other professionals

1.2. Describe the roles and responsibilities of other professionals within the Hematology team including laboratory technologists and physicians, nurses, social workers and pharmacists

1.3. Recognize and respect the diversity of roles, responsibilities and competencies of other professionals in relation to their own

1.4. Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)

1.5. Work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities

1.6. Participate effectively in interprofessional teams in the laboratory as well as ambulatory and in-patient settings

1.7. Enter into interdependent relationships with other professions for the provision of quality care

1.8. Describe the principles of team dynamics

1.9. Respect team ethics, including confidentiality, resource allocation and professionalism

1.10. Demonstrate leadership in a health care team, as appropriate

2. Work with other health professionals effectively to prevent, negotiate, and resolve interprofessional conflict

2.1. Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team

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2.2. Work with other professionals to prevent conflicts

2.3. Employ collaborative negotiation to resolve conflicts

2.4. Respect differences and limitations in other professionals

2.5. Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension

2.6. Reflect on interprofessional team function

Manager
Definition:
As *Managers*, Hematologists are integral participants in health care organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the health care system.

Key and Enabling Competencies: Hematologists are able to…

1. Participate in activities that contribute to the effectiveness of their health care organizations and systems

1.1. Work collaboratively with others in their organizations

1.2. Participate in systemic quality process evaluation and improvement, such as patient safety initiatives in clinical care and the laboratory

1.3. Describe the structure and function of the health care system as it relates to Hematology practice, including cancer care systems, Canadian Blood Services/HemaQuebec, and Ministries of Health

1.4. Describe principles of health care financing, including physician remuneration, budgeting and organizational funding

2. Manage their practice and career effectively

2.1. Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life

2.2. Manage a practice including finances and human resources

2.3. Implement processes to ensure personal practice improvement

2.4. Employ information technology appropriately for patient care

3. Allocate finite health care resources appropriately

3.1. Recognize the importance of just allocation of health care resources, balancing effectiveness, efficiency and access with optimal patient care particularly with high cost therapies and blood products

3.2. Apply evidence and management processes for cost-appropriate care for individual Hematology patients and at a systems level

4. Serve in administration and leadership roles, as appropriate

4.1. Chair or participate effectively in committees and meetings

4.2. Lead or implement change in health care

4.3. Plan relevant elements of health care delivery (e.g., work schedules)

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Health Advocate
Definition:
As *Health Advocates*, Hematologists responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

Key and Enabling Competencies: Hematologists are able to…

1. Respond to individual patient health needs and issues as part of patient care

1.1. Identify the health needs of an individual patient

1.2. Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care including access to drugs and blood products

2. Respond to the health needs of the communities that they serve

2.1. Describe the practice communities that they serve

2.2. Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately

2.3. Appreciate the possibility of competing interests between the communities served and other populations

3. Identify the determinants of health for the populations that they serve

3.1. Identify the determinants of health of the populations, including barriers to access to care and resources especially financial barriers

3.2. Identify vulnerable or marginalized populations within those served and respond appropriately

4. Promote the health of individual patients, communities, and populations

4.1. Describe an approach to implementing a change in a determinant of health of the populations they serve

4.2. Describe how public policy impacts on the health of the populations served

4.2.1. Promote preventative strategies including thromboprophylaxis and vaccination programs

4.2.2. Promote blood safety

4.3. Identify points of influence in the health care system and its structure

4.4. Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism

4.5. Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper

4.6. Describe the role of the medical profession in advocating collectively for health and patient safety

Scholar
Definition:
As *Scholars,* Hematologists demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.

Key and Enabling Competencies: Hematologists are able to…

1. Maintain and enhance professional activities through ongoing learning

1.1. Describe the principles of maintenance of competence

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1.2. Describe the principles and strategies for implementing a personal knowledge management system

1.3. Recognize and reflect on learning issues in practice

1.4. Conduct a personal practice audit

1.5. Pose an appropriate learning question

1.6. Access and interpret the relevant evidence

1.7. Integrate new learning into practice

1.8. Evaluate the impact of any change in practice

1.9. Document the learning process

2. Critically evaluate medical information and its sources, and apply this appropriately to practice decisions

2.1. Describe the principles of critical appraisal

2.2. Critically appraise retrieved evidence in order to address a clinical question

2.3. Integrate critical appraisal conclusions into clinical care

3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate

3.1. Describe principles of learning relevant to medical education

3.2. Identify collaboratively the learning needs and desired learning outcomes of others

3.3. Select effective teaching strategies and content to facilitate others' learning

3.4. Demonstrate the ability to deliver effective lectures or presentations

3.5. Assess and reflect on a teaching encounter

3.6. Provide effective feedback

3.7. Describe the principles of ethics with respect to teaching

4. Contribute to the development, dissemination, and translation of new knowledge and practices

4.1. Describe the principles of research and scholarly inquiry

4.2. Describe the principles of research ethics

4.3. Pose a scholarly question

4.4. Conduct a systematic search for evidence

4.5. Select and apply appropriate methods to address the question

4.6. Disseminate the findings of a study

Professional
Definition:
As *Professionals*, Hematologists are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

Key and Enabling Competencies: Hematologists are able to…

1. Demonstrate a commitment to their patients, profession, and society through ethical practice

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1.1. Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect and altruism

1.2. Demonstrates ability to meet deadlines and to be punctual

1.3. Demonstrate a commitment to delivering the highest quality care and maintenance of competence

1.4. Recognize and respond to ethical issues encountered in practice

1.5. Appropriately manage conflicts of interest including interactions with pharmaceutical industries

1.6. Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law

1.7. Maintain appropriate relations with patients

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

2.1. Demonstrate knowledge and an understanding of the professional, legal and ethical codes of practice

2.2. Fulfill the regulatory and legal obligations required of current practice

2.3. Demonstrate accountability to professional regulatory bodies

2.4. Recognize and respond to others' unprofessional behaviours in practice

2.5. Participate in peer review

3. Demonstrate a commitment to physician health and sustainable practice

3.1. Balance personal and professional priorities to ensure personal health and a sustainable practice

3.2. Recognize the impact of caring for the dying patient

3.3. Strive to heighten personal and professional awareness and insight

3.4. Recognize other professionals in need and respond appropriately

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SPECIALTY TRAINING REQUIREMENTS IN HEMATOLOGY

These training requirements apply to those who begin training on or after July 1, 2009.

ELIGIBILITY REQUIREMENTS

1. Royal College Certification in Internal Medicine or enrolment in a Royal College approved training program in Internal Medicine (see requirements for these qualifications). All candidates must be certified in Internal Medicine in order to be eligible to write the Royal College certification examination in Hematology.

MINIMUM TRAINING REQUIREMENTS

2. Twenty four (24) months of approved training in Hematology, a maximum of one year of which may be undertaken at the fourth year residency level during training for Certification in Internal Medicine. This 24 month period must include:

2.1. Eight (8) months of clinical Hematology. This must include adequate exposure to thrombosis and hemostasis, malignant Hematology, and general consultative Hematology. This must include practice in the inpatient and ambulatory settings and must include primary patient care, consultative practice and exposure to solid tumour oncology. Experiences in maternal health, hemoglobinopathy and community practice are recommended

2.2. One (1) month of pediatric hematology

2.3. One (1) month of stem cell transplantation. The experience must include exposure to new patient assessment, donor selection, stem cell collection and infusion and management of complications including graft-versus-host disease in both the autologous and allogeneic setting

2.4. Six (6) months in laboratory Hematology. This must include adequate exposure to routine Hematology, morphology, cytogenetics, molecular testing and diagnostics, Transfusion Medicine, coagulation laboratory, and lymph node and splenic pathology

2.5. One (1) month or its equivalent longitudinally of research or quality improvement activities related to Hematology

2.6. Seven (7) months selected from any of the following:

2.6.1. Additional training related to clinical Hematology

2.6.2. Additional training in laboratory Hematology or one of its branches

2.6.3. Additional research related to Hematology

2.6.4. Approved course of study or training relevant to the objectives of Hematology and acceptable to the program director and to the College, at a hospital or university center in Canada or abroad

2.7. Completes a scholarly project demonstrating competence in study design, data collection, analysis and communication of results

REVISED - 2009

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Office of Education Bureau de l'éducation

Format of the Comprehensive Objective Examination in Hematology

2008

Comprehensive objective examinations make it possible to obtain a more complete evaluation of the candidate's strengths and weaknesses. The important feature of comprehensive objective examinations is that candidates do not need to pass the written component in order to take the oral component. Success or failure is based on consideration of all components of the examination. The comprehensive objective examinations are considered a "whole" and cannot be fragmented. Candidates who are unsuccessful at this examination must, if within their period of eligibility, repeat all components of the examination.

a. Written component

The written component consists of one paper and the total duration is approximately three hours. The questions on the written component are all of the short answer type and require answers ranging from one line to one paragraph. The questions are based on the educational objectives of hematology, as determined by the Specialty Committee (i.e., basic sciences, laboratory and clinical hematology, and oncology). Candidates will be provided with booklets containing the questions and space for their answers. Materials may include photographic reproductions as a basis for some of the examination.

b. Morphology/Laboratory component

The candidate will interpret approximately 26 slides over approximately two hours, recording the most important morphological findings and a differential diagnosis based on the findings. The candidate will be required to interpret blood smears, bone marrow aspirates and biopsies, and common lymph node pathology. An orientation with the chair of the Examination Board will occur prior to this component of the examination.

c. Oral component

The oral component involves discussion of 12 clinical scenarios. The candidate will receive relevant clinical and laboratory information and may be asked to interpret the laboratory results. The candidate will be asked to discuss the diagnosis and/or management in each case, which may include appropriate investigation, management decisions, and consultancy skills in challenging clinical circumstances. The candidate will have approximately one hour to review laboratory data and clinical information on all 12 cases prior to meeting with the examiners. The examination, following the one hour review, will take approximately two hours. The candidate will discuss blocks of three cases (i.e., 1-3, 4-6, etc.) in four different stations, each station. An orientation with the Chair of the Examination Board will occur prior to the examination.

Revised October 2008

Severe Fail Policy: **The Severe Fail Category applies to those candidates whose performance is generally at least two standard deviations below the failure mark. This level of performance indicates that a candidate would not be successful on further examination attempts without further training or other appropriate intervention. Only a very small number of candidates (1.68% of all candidates in 2007) fall into this category. Further information about this policy can be found on the Royal College of Physicians and Surgeon's website.**

Program Goals and Objectives

The goals and objectives of the McMaster University Hematology Residency Training Program correspond to those identified by the Royal College of Physicians and Surgeons of Canada (RCPSC). Upon completion of residency training in hematology at McMaster University, the resident is expected to be a competent specialist in adult hematology and to demonstrate the requisite knowledge, skills and attitudes for ethical and effective patient-centered care, as well as management of hematologic laboratories. Additional training may be required to ensure competence in a specialized laboratory or clinical area.

The resident will acquire in-depth knowledge of aspects of biochemistry, genetics, immunology, pathology, pathophysiology, diagnosis, and treatment of hematologic diseases and will learn the hematologic changes that occur with aging and maturation, as well as during pregnancy. He/she will learn about the psychosocial care of patients with hematologic diseases, including pain management and end-of-life care. The resident will develop skills required for the performance of diagnostic and therapeutic procedures and interpretation of laboratory tests relevant to the practice of haematology.

The graduating resident is expected to be able to accurately convey relevant information and explanations to patients and their families, colleagues, and other professionals; to effectively collaborate within the healthcare team; to exhibit management skills pertinent to the supervision of hematologic laboratories; to demonstrate a commitment to self-directed learning; to critically evaluate scientific information and facilitate the education of colleagues, students, residents, and other healthcare workers; and to practice in an ethical and professional manner.

Brief descriptions of each rotation are provided on page 60. Specific Rotation Objectives can be found starting on page 61.

Evaluation

The McMaster University Hematology Residency Training Program maintains a collegial atmosphere in which feedback is frequently exchanged between residents and faculty in order to promote excellence in resident education and resident performance. We want to ensure that every resident successfully achieves or exceeds rotation objectives and that every rotation meets or exceeds resident learning objectives. The evaluation process is instrumental in meeting these goals.

RESIDENT EVALUATION

Postgraduate Policies (Effective July 1st 2009)

There are a minimum of four "bottom-line" categories: Satisfactory, Provisional Satisfactory, Unsatisfactory or Incomplete. ***Provisional Satisfactory*** exists when significant deficiencies have been identified, but they are not so severe that they require the trainee to repeat entire rotation (that is, the deficiencies could be addressed within another rotation; these often relate to non-Medical Expert CanMEDS domains) and ***Incomplete*** when the clinical supervisor is unable to fully evaluate the trainee because time spent in the rotation was insufficient (e.g. less than 50% attendance).

Key Guidelines for the Evaluation of Postgraduate Trainee

1. At the b*eginning of the Rotation,* the supervisor and trainee should meet to discuss objectives and how the trainee will be evaluated.
2. There should be regular informal feedback *during the Rotation.*
3. It is recommended that a mid-rotation evaluation occur. In the Hematology Program, these occur in all Rotations; however for those of 2 months or more a Mid-Unit Evaluation Form is completed (see page 32). ***The trainee is responsible for scheduling a face-to-face evaluation at the mid-point of their Rotation***. Regardless of the length of a Rotation, ***if concerns are identified a formal mid-rotation evaluation must*** take place. This must be ***face-to-face*** and occur ***generally within 2 weeks of the midpoint date***, so the trainee has an opportunity to address deficiencies.
4. At the *end of the Rotation*, the Clinical Supervisor should synthesize information from all teaching faculty, as well as the clinical or laboratory team (see Allied Health Professional Feedback Form on page 34) and any other evaluation forms utilized (see Structured Assessment of Resident Dictation Form on page 39) to complete the ITER and then discuss the evaluation and ITER with the trainee prior to the end of the rotation. ***If the supervisor is not able to meet these deadlines and has not met with trainee within 10 working days after the Rotation, the clinical supervisor should submit the ITER and send supporting document to the Home Program Director.***
5. It is expected that the ***trainee will review the evaluation within 20 working days from the end of rotation***.

All appeals must be made within ***15 days*** after the trainee becomes aware of the decision under appeal. The first level of appeal is made to the Program (Level 1). If the issue is not resolved at Level 1, it can be directed to the Postgraduate Medical Education (PGME) Office, which is Level 2. The PGME Office will convene a meeting of the ***Appeal Review Board*****.** Level 3 is the final level of appeal and at this point the Dean, Faculty of Health Sciences will strike a Tribunal, whose decision is final. There is no access to University Senate.

The Evaluation Policy in its entirety is available through medportal: http://postgrad.medportal.ca/, in the Administration area, under Policies and Procedures. It is also available on the PG website: http://www.fhs.mcmaster.ca/postgrad/.

Rotation In-Training Evaluation Reports (ITERs)

The ITER is the main modality of assessing resident knowledge and observed performance according to CanMEDS competencies. Hematology Residents are evaluated at the end of each Rotation with a rotation-specific ITER that encompasses all of the CanMEDS 2005 domains. At an end of rotation meeting, the resident's written evaluation is reviewed and discussed. Our program uses the one45 computer-based evaluation system. Residents can review their ITERs electronically. Rotation-specific ITERS follow each Rotation Description in this handbook.

Practice Examinations

In preparation for the Royal College of Physicians and Surgeons Examination in Hematology, three practice examinations are held annually. Each winter, the Hematology Residency Program conducts an Objective

Structured Clinical Examination (OSCE) for all hematology residents. The OSCE consists of several stations that test history taking, physical examination, slide interpretation, interpretation of test results, and clinical management of hematologic problems. The McMaster Hematology Residency Program also participates in the annual national practice examination held each summer. All hematology residents participate in the written and morphology components of this test; residents at the PGY5 level and above also complete a mock oral examination. The Hematology Residency Program pays for residents to participate in the American Society of Hematology (ASH) on-line written In-Training Examination each spring. This test is mandatory for PGY5 residents, while PGY4 residents can chose whether or not they wish to participate, given this test's proximity to the Royal College Internal Medicine Examination. The results of these tests are reviewed and used to as a tool to guide the setting of future learning objectives; they are not used by the Residency Program for evaluative purposes.

Progress Review
Each resident meets with the Program Director semi-annually to review progress, career goals and other issues. A Self-Assessment Form is completed by the trainee prior to the Progress Review (see page 42). These meetings are documented with the minutes forming part of the resident's academic record.

Procedural Skill Competency Log
Residents are responsible for maintaining a Procedural Skill Competency Log on one45. The purpose of the log is to document that the trainee has successfully mastered all the skills necessary to independently perform (1) bone marrow biopsy and aspirate, (2) diagnostic lumbar puncture, and (3) therapeutic lumbar puncture with installation of chemotherapy on an uncomplicated patient. Until a supervisor signs off that this level of competency has been obtained, the trainee must be supervised while undertaking the procedure in question. There is no minimum number of procedures required for competency.

Final In-Training Evaluation Report
At the end of training, a final evaluation form (FITER) is prepared by the Program Director, with assistance from the Residency Training Program Committee. The FITER is forwarded to the Royal College and is used specifically in cases of borderline Royal College Examination results.

FACULTY AND ROTATION

Residents are encouraged to complete confidential Rotation Evaluations (page 44) and Faculty Evaluations (page 47) using the web-based evaluation system. When at least two evaluations for each faculty member or rotation have been complied, the results are complied into a single summary report and are reviewed by the Residency Training Committee and Director of the Hematology Training Program. Individual faculty members are supplied with a summary of their evaluations. Each Rotation Supervisor receives a similar summary of Rotation Evaluations. Residents are also encouraged to compile a biannual group evaluation of the faculty and rotations that is also forwarded to the Program Director for review with by the Residency Education Program Training Committee. Specific faculty or rotation problems that require prompt attention can be brought to the attention of the Program Director, as necessary.

MID-UNIT EVALUATION FORM

Rotation: _____

Rotation Supervisor: _____

Faculty Providing Feedback (if different from Rotation Supervisor): _____

Resident: _____

Date: _____

Together, the resident and supervisor should identify which of the following CanMEDS competencies are most pertinent to this rotation and discuss the questions below with respect to these competencies:

Medical Expert: knowledge, clinical skills, professional attitude
Communicator: facilitation of the doctor-patient relationship before, during, after the patient encounter
Collaborator: working within a team to optimize care
Manager: organizing sustainable practices and allocating resources appropriately
Health Advocate: advancing the well-being of individuals, communities, and populations
Scholar: effective learning, dissemination, creation, application, and translation of medical knowledge
Professional: demonstrating commitment to patients, profession, and society

1. Describe the resident's performance at mid-unit.
   - ☐ Satisfactory
   - ☐ Not satisfactory

   If not satisfactory, areas of deficiency (with specific examples) must be outlined below.

2. What has the resident done well so far? What are the resident's strengths?

3. Please identify areas that require improvement. What next steps (tasks) does the supervisor suggest the trainee undertake during the rest of this rotation and long-term? *If the resident's performance is not satisfactory, a specific plan to address areas of weakness must be outlined (including time frame for remediation and method of evaluation of remediation).*

4. What next steps (tasks) does the trainee wish to undertake during the rest of this rotation and long-term to become a better specialist in this area? To be come a better overall physician?

_____ _____

Signature of faculty performing mid-unit evaluation Signature of resident

Make 1 copy for the resident, keep 1 copy for Rotation Supervisor's file and send original to the Program Director's office.

ALLIED HEALTH PROFESSIONAL EVALUATION OF HEMATOLOGY RESIDENT

Name of Person Evaluated: _____

Rotation: _____

For Rotation Dates: _____ to _____

We place a high value on effective clinical and interpersonal skills, compassion, and integrity. In order to assess these qualities in our residents, we are asking you to complete this form for the hematology resident named above. We are interested in your perception of the resident during this rotation. You may not be able to answer all of the questions or feel comfortable doing so, please mark these items as" N/A or unable to assess". Although the resident will have access to the information you provide, your name will not be recorded and your identity will be kept confidential.

Please mark the best descriptor for your role:

_____ Nurse

_____ Physiotherapist

_____ Occupational Therapist

_____ Pharmacist

_____ Social Worker

_____ Nutritionist

_____ Clerical (Unit Clerk, Receptionist, Secretary)

_____ Laboratory or Clinical Technologist or Research Associate

On average, how many clinical observations did you have with the resident per week? Please mark one.

_____ 4 or less per week

_____ 5 – 10 per week

_____ 11-15 per week

_____ 16 or more per week

	EXPECTATIONS					
*Please provide rationale for assessment or examples to support ratings with asterisks.	*Never	*Rarely	Typically	Almost Always	Always	N/A or unable to assess
PROFESSIONAL RELATIONSHIPS						
a) Respects the professional knowledge and skills of co-workers. Listens to and considers what others have to say about patient comfort and concerns.						
b) Respects the roles of other health care professionals in patient care.						
c) Treats other residents and medical students with respect.						
d) Handles interpersonal situations with staff in a respectful and effective manner.						
e) Is honest and trustworthy in demonstrating and evaluating his/her skills and abilities.						
f) Accepts responsibility for patient care.						
g) Willing to receive constructive feedback and interested in discussing opportunities for improvement.						
h) Recognizes the limits of his/her skills and knowledge and seeks consultation or supervision when appropriate.						
i) Is accessible for appropriate communication about patients (e.g. answers pager within an appropriate time interval).						
j) Facilitates the learning of co-workers.						
k) Manages their own stress effectively.						
l) Presents himself/herself in a professional manner.						
Comments						

	EXPECTATIONS					
*Please provide rationale for assessment or examples to support ratings with asterisks.	*Never	*Rarely	Typically	Almost always	Always	N/A or unable to assess
PATIENT/FAMILY RELATIONSHIPS						
a) Is polite and courteous to patients and their families.						
b) Responds to patient needs for comfort and support. Shows compassion.						
c) Responds to family needs for information and support. Shows compassion.						
d) Maintains appropriate relationships with patients and families.						
e) Respects patient privacy and confidentiality.						
f) Respects the rights and choices of patients regarding their care.						
g) Communicates effectively with patients and families.						
h) Handles demanding interpersonal situations with patients and their families in a respectful and effective manner.						
Comments						

	EXPECTATIONS					
*Please provide rationale for assessment or examples to support ratings with asterisks.	*Never	*Rarely	Typically	Almost always	Always	N/A or unable to assess
PATIENT CARE						
a) Is able to appropriately diagnose and treat patients.						
b) Is able to manage patients with multiple complex medical problems.						
c) Gives priority to urgent requests.						
d) Responds appropriately in emergency situations.						
e) Performs technical procedures skilfully (e.g. bone marrow biopsy and aspirate, lumbar puncture, laboratory procedure).						
f) Is able to problem solve and make decisions in a timely manner.						
g) Follows-up appropriately on the results of diagnostic tests and laboratory investigations.						
h) Is able to efficiently manage his/her workload; shows good time management.						
i) Is able to effectively communicate verbally with other health professionals.						
j) Is able to effectively communicate in writing with other health professionals.						
k) Writes legibly.						
Comments						

What are this resident's greatest strengths?

What specific adjustments in behaviour would be most beneficial to the resident?

STRUCTURED ASSESSMENT OF RESIDENT DICTATION

Name of Person Evaluated: _____

For Rotation: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

Please indicate type of dictation evaluated:

Consultation Note ☐ Discharge Summary ☐

Admission History and Physical ☐

	ASSESSMENT		
	Unsatisfactory; major deficiencies	**Provisional Satisfactory; minor deficiencies**	**Satisfactory**
OVERALL ASSESSMENT OF RESIDENT DICTATION			
a) FACULTY ASSESSOR, please the overall quality of this dictation:			
Assessor's comments: *Describe dictation strengths, weaknesses, and suggestions for improvement.*			

Please mark whether each of the components listed below was present. If not applicable, mark N/A.	**Not present**	**Present**	**N/A or unable to assess**
FORMAT			
a) Dictator's name			
b) Attending physician's name			
c) Referring physician			
d) Patient identifiers			
e) Date of assessment			
f) Reason for assessment (consult) or admission (admission / discharge)			
g) History of present illness (consult / admission) or hospital course (discharge)			
h) Past medical history / existing diagnoses			
i) Medications			
j) Allergies			
k) Family history			
l) Physical examination			
m) Laboratory findings			
n) Assessment			
o) Management plan and follow-up			
p) Copies specified for all relevant health practitioners / institutions			
Comments:			

	ASSESSMENT				
Please assess each of the criteria listed below. If not applicable, mark N/A	No	Inconsistently	Usually	Consistently	N/A or unable to assess
CONTENT & CLARITY					
a) Information is presented in a logical manner (e.g. chronologically or by problem). Dictation is easy to read and well organized with coherent flow. Grammar is acceptable.					
b) Content is accurate.					
c) Dictation is concise but inclusive with exclusion of extraneous details. Relevant positives and negatives are included.					
Comments:					

	ASSESSMENT		
	No	Yes	N/A or unable to assess
TIMELINESS			
a) Dictation completed within 48 hours			
Comments:			

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RESIDENT PROGRESS REVIEW: SELF ASSESSMENT FORM

Resident Name: _____

Date of Meeting: _____

Regular self-evaluation is essential for professional growth. Before your Progress Review, you should use this form to prepare a brief summary of how your residency goals and objectives were met or unmet during the rotation period, your professional strengths and weaknesses during the rotation period, the progress you have made on longitudinal requirements (e.g. projects) and an assessment of personal/professional life balance.

The questions below should facilitate your self-reflection and make the process more effective. The questions may help you discover the skills you need to acquire to achieve your goals and will assist your Program Director in mentoring your career. As your training progresses, you should compare your responses to those during previous time periods.

Career

1) What are my desired professional outcomes over next six months?
2) What are likely to be my most significant professional challenges for the next six months?
3) Who am I not working well with and how can I make that relationship better?
4) What issues keep me up at night? What is not going well in my training?
5) What have I learned about myself while working at my job?
6) What characteristics / behaviors do I admire in my co-workers? What do I not like in my co-workers? What will I commit to changing to make me a better physician / coworker?
7) How do I envision my career looking in five years? Do I prefer working in a large or small organization? In a team environment or on my own? In an academic centre or in a community setting? Is it important that research be a component of my career? What about teaching? What do I enjoy most about hematology? Is there an area that I dislike? Do I prepare to follow or to lead?
8) How will I achieve my career goals? What skills, knowledge, and experience do I need?

Personal

1) What are the most valuable achievements/goals I attained in the past six months?
2) What are my most significant personal goals and challenges for the next six months?
3) Can I improve the way I am dealing with the current challenges in my life? If so, how?
4) What do I need to keep doing? What would I like to change about myself?
5) How am I treating the most important people in my life? How could I treat them better?

1. Is the residency program meeting your professional needs? Summarize how your residency goals and objectives were met or unmet during the past six months.

2. Summarize your professional strengths and weaknesses during the past six months.

3. Provide an assessment of your personal and professional life balance over the past six months.

4. Summarize your progress on the following longitudinal requirements.
   - Research projects
   - Resident portfolio
   - On-line ethics tutorials

5. What are your long term career plans? Summarize your progress toward your long term career goals. What do you need help with?

6. List your professional goals for the next six months. How will you achieve them? What do you need help with?

_____ Resident

_____ Program Director

Bring your completed form with you to your Semi-Annual Progress Review. After your meeting, file a hard copy in your Resident Portfolio in the "Scholarly and Professional Development" section.

*****Form adapted from those used by Vanderbilt University Pharmacy Program and University of Wisconsin (Madison) Family Medicine Program*****

EVALUATION OF ROTATION

Name of Rotation Evaluated: _____

For Rotation Dates: _____ **to** _____

	ASSESSMENT					
*Rationale for assessment must be provided to support ratings with asterisks.	*Unsatisfactory	*Borderline	Meets Expectations	Very Good	Excellent	Not observed or unable to assess
LEARNING ENVIRONMENT						
a) Orientation to rotation						
b) Rotation objectives						
c) Resource material						
d) Exposure to research						
e) Time for self-directed learning						
f) Teaching						
g) Service to education ratio						
h) Scope and variety of patients						
i) Opportunity to perform procedures						
j) Supervision						
Comments						

	ASSESSMENT					
*Rationale for assessment must be provided to support ratings with asterisks.	*Unsatisfactory	*Borderline	Meets Expectations	Very Good	Excellent	Not observed or unable to assess
OPPORTUNITIES FOR TEACHING & RESIDENT AUTONOMY						
a) Level of responsibility						
b) Opportunities to teach and supervise junior house staff						
c) Opportunities to practice presentation skills						
Comments						
OPPORTUNITIES TO MEET ROTATION-SPECIFIC OBJECTIVES						
a) Medical Expert						
b) Communicator						
c) Collaborator						
d) Manager						
e) Health Advocate						
f) Scholar						
g) Professional						
Comments						

	ASSESSMENT					
*Rationale for assessment must be provided to support ratings with asterisks.	*Unsatisfactory	*Borderline	Meets Expectations	Very Good	Excellent	Not observed or unable to assess
EVALUATIONS						
a) Mid-rotation						
b) End-rotation						
Comments						
OVERALL RATING OF ROTATION						
a) Overall assessment of rotation						
Comments – including rotation strengths and weaknesses; suggestions for improvement						

EVALUATION OF FACULTY

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

	ASSESSMENT				
*Rationale for assessment must be provided to support ratings with asterisks.	*Needs improvement	Satisfactory	Very Good	Excellent	Not observed or unable to assess
MEDICAL EXPERT					
m) Demonstrates broad knowledge of medicine in area of expertise					
n) Substantiates decisions with evidence of acknowledges limitations of evidence					
o) Discusses pertinent aspects of evidence-based medicine					
p) Identifies important elements in case analysis					
q) Uses consultants carefully; clear question generally specified					
Comments					

	ASSESSMENT				
*Rationale for assessment must be provided to support ratings with asterisks.	*Needs improvement	Satisfactory	Very Good	Excellent	Not observed or unable to assess
COMMUNICATOR					
a) Displays sensitive, caring, and respectful attitude towards patients and families					
b) Gives clear explanations to patients and families regarding illness and therapeutic plan					
c) Demonstrates knowledge and awareness of all patient issues					
Comments					
COLLABORATOR					
a) Respectful and responsive to concerns of other health care professionals; facilitated their improvement					
b) Displays effective and efficient discharge planning					
Comments					

	ASSESSMENT				
*Rationale for assessment must be provided to support ratings with asterisks.	*Needs improvement	Satisfactory	Very Good	Excellent	Not observed or unable to assess
SCHOLAR					
a) Effectively teaches biological and physiological basis of clinical practice					
b) Emphasizes problem-solving and thought process leading to decisions					
c) Uses bed-side teaching to demonstrate history-taking and physical examination skills					
d) Discusses literature retrieval, methodology of papers, and their application to individual patient					
e) Considers educational needs of all levels of housestaff					
f) Is a role model of continued life-long learning					
g) Provides timely and respectful feedback to housestaff					
Comments					

	ASSESSMENT				
*Rationale for assessment must be provided to support ratings with asterisks.	*Needs improvement	Satisfactory	Very Good	Excellent	Not observed or unable to assess
PROFESSIONAL					
a) Punctual for rounds					
b) Makes housestaff secure with back-up and availability					
c) Shows respect for housestaff and decisions with proper attention to resident autonomy					
d) Shows consistent awareness of ethical issues of confidentiality, informed consent, and patient autonomy in decision making					
Comments					
MANAGER					
a) Balances service responsibilities with teaching functions					
b) Considers health care resources when planning patient management					
Comments					

	ASSESSMENT				
*Rationale for assessment must be provided to support ratings with asterisks.	*Needs improvement	Satisfactory	Very Good	Excellent	Not observed or unable to assess
HEALTH ADVOCATE					
a) Understands and considers the determinants of health of individual patients, groups of patients, and communities					
b) Advocates for effective health interventions (e.g. smoking cessation, weight loss, access to limited-use drugs)					
Comments					

General Comments

Use this space for other comments (including additional strengths and weaknesses, suggestions of improvement).

Resident Portfolio

All Hematology Residents are required to maintain a Resident Portfolio. The Portfolio will be reviewed at each Progress Meeting.

Purpose:

- To make the residency experience more tangible, more retrievable and more meaningful
- To allow reflection and self-assessment during the residency and encourage the resident to take an active role in his/her achievements and professional development
- To reinforce the need for self-directed learning and maintenance of competence and to allow the resident to demonstrate evidence of professional development
- To assist the Program Director in ensuring that the resident gains insight into their training and achieves educational and career goals

A properly maintained Resident Portfolio will enhance trainee marketability when applying for positions or fellowships and can also become the basis of the Royal College Maintenance of Certification documentation.

Structure:

- The Portfolio is a three-ring binder which includes five standard sections, as listed below. However, Portfolios should be considered personal and individual and the resident should be encouraged to be creative in terms of structure and content.

Evaluation:

- Although the Portfolio is not formally evaluated, failure to maintain it would be interpreted as evidence of lack of professionalism.

Review of the Portfolio:

- Every six months the Portfolio will be reviewed as part of the trainee's meeting with the Program Director. Ultimately, the Portfolio is the resident's to maintain and keep. The resident is responsible for ensuring that all the necessary documents / components are present for the semi-annual review with the Program Director.

Content:

- Curriculum vitae
- Examination results
  - OSCE
  - National Practice Examination
- Evaluations
  - FITER
  - ITERS
  - Mid-unit Evaluations
  - Multisource Feedback Forms
  - Structured Evaluations of Dictations
  - Team Leader Evaluations
  - Direct Clinical Observations
  - Teaching Evaluations

Content (Continued):

- Scholarly activity and professional development
  - Conferences, workshops, or training courses attended
  - Certificates of completion for on-line ethics courses (http://ethics.mcmaster.ca/chart/ and http://phrp.nihtraining.com/users/login.php)
  - Abstracts (submitted/presented)
  - Manuscripts (submitted/published)
  - Presentations (e.g. original research, rounds, journal club)
  - Ideas for research projects
  - Manuscripts reviewed
  - Educational activities
  - Administrative activities (e.g. Chief Resident, Journal Club Coordinator)
  - Awards
  - Minutes of six-monthly Progress Reviews with Program Director
  - Resident Self-Evaluations of Progress
- Practice-based learning and improvement
  - Problem-based learning projects (template provided)
  - Significant event analysis (medical errors/near misses, difficult clinical situations and ethical dilemmas faced)

Moonlighting

Moonlighting is considered to occur when residents registered in postgraduate medical education programs leading to certification with the Royal College of Physicians and Surgeons of Canada or the College of Family Physicians of Canada provide clinical services for renumeration outside of the residency program.

Policies on Moonlighting

The Ontario Faculties of Medicine does not support resident moonlighting because it compromises postgraduate programs and undermines the educational environment. McMaster Postgraduate Medical Education supports this policy. It is recognized that Postgraduate Medical Education cannot restrict, from a practical point of view, those residents with an independent practice certificate from participating in this practice but this activity must not interfere with the training program and the Program Director should be informed by the resident of plans to moonlight so that the effect of this activity on the resident and on the program can be monitored.

The Royal College of Physicians and Surgeons of Canada neither condemns nor condones the practice of moonlighting during residency training. However, it does suggest that the following principles be considered if this practice does occur: (1) moonlighting must not be coercive (i.e. a requirement of the residency program), (2) the moonlighting workload must not interfere with the ability of the resident to achieve the educational goals and objectives of the residency program (i.e. the Program Director should be informed when a resident chooses to moonlight and must monitor resident performance to ensure that neither learning nor patient safety are compromised because of increased fatigue), (3) if residents do moonlight, it should not occur on the same unit or service to which they are currently assigned as a resident, and (4) confirmation of licensing, credentialing, and appropriate liability coverage is the responsibility of the employer, not the Residency Training Program.

Restricted Registration for Residents or Limited Licensure

In 2004, the College of Physicians and Surgeons of Ontario (CPSO) outlined a proposal for a restricted registration pilot project to address physician resource issues. Under the terms of the proposal, residents who completed a minimum of one year of postgraduate training and obtained the approval of the Postgraduate Dean were eligible to apply. Further restrictions were that their paid work could not interfere with the service requirements of the residency program, they must maintain a supervisory relationship with the Most Responsible Physician at the paid work site, the additional hours worked cannot contravene the collective agreement, and paid work under a restricted registration can only occur in rotations already successfully completed. The six medical schools in Ontario and the Professional Association of Interns and Residents of Ontario (PAIRO) have developed a collaborative pilot study designed to formally gather data on the effect of moonlighting on resident performance, the well-being of residents and their significant others, service needs, and patient satisfaction.

This year, residents previously participating in the Restricted Registration pilot in core programs are eligible to renew their certificate for Restricted Registration when entering a subspecialty program; the following criteria must be met before approval for continuing participation in the Restricted Registration Pilot will be granted:

- As Restricted Registration work cannot violate the current PAIRO agreement, residents are eligible for Restricted Registration duties on Fridays and Saturdays only. “Moonlighting” activities cannot interfere with Program call requirements.
- Restricted Registration activities cannot interfere with the educational requirements of the Program. Therefore, for each rotation in the proceeding 12 months, there can be no provisional or unsatisfactory evaluations. Residents must at least “meet expectations” in all criteria and have at least 50% “exceeds expectations” in all criteria in all CanMEDS domains. Residents must also be in good standing overall in the Program. This includes adequate maintenance of their Resident Portfolio, satisfactory attendance at mandatory educational events, satisfactory completion of on-line tutorials and training sessions and satisfactory progress with respect to their research projects.
- Residents (not the Program) are responsible for obtaining CPMA coverage for Restricted Registration activities (Code 14 - moonlighting) and for practicing within the scope of their training. They will also be required to provide data for tracking and evaluating the pilot project. Residents cannot provide service in the same setting as their current rotation in the Hematology Residency Program.
- Hospitals will be responsible for confirming licensing, credentialing, and appropriate liability coverage. These are not the Program’s responsibility.

Resident On-Call and Leave

On-Call

Hematology residents are expected to attain proficiency in the recognition and management of emergent, urgent and elective problems in clinical and laboratory hematology. As part of this training, the residents participate in out-of-hospital, adult hematology on-call duties, during which they may be asked to address both clinical and laboratory issues. Although residents have similar on-call as faculty members, there is graded responsibility, commensurate to the knowledge, ability and experience of the resident. Residents are on-call with a faculty member, who provides support, advice and education. The frequency of call is designed to provide optimal and adequate exposure to urgent problems. In both years of the program, the resident is on-call approximately one night per week and one in four weekends. On-call responsibilities for each rotation are included in the rotation objectives/description.

On Call Stipend

In order to be eligible to receive the on-call stipend, residents must be registered as a "resident" with the Postgraduate Medical Education Office and must be remitting dues to PAIRO. Residents funded by the Ministry of Health will receive their stipends on their paycheque. It is the expectation of the Postgraduate Medical Education Office that those who are funded from other outside sources will receive the stipend directly from their sponsor. Residents are responsible for submitting their call stipend information directly to the Hamilton Health Sciences paymaster through their electronic reporting system. The Hematology Residency Program and Postgraduate Medical Education are not involved in this process.

Leave

Vacation

Total amounts of vacation and leave time permissible for trainees are governed by the PAIRO contract. At present, paid vacation entitlement is four weeks per year. Vacation entitlements do not carry over from one year to the next.

Vacation may be taken in one continuous period or in on or more segments of at least one week in duration, provided professional and patient responsibilities are met. It should be noted that if a trainee is requesting a one month block, this request should be made well in advance (at least before the start of the rotation) and the resident should be aware that missing one month of a mandatory rotation could impact on the resident's educational experience and ability to achieve the objectives of the rotation.

Requests for vacation must be communicated in writing using the Postgraduate Medical Education Office's Vacation Form at least 4 weeks before the proposed start of vacation and not later than March 1st. However, if the resident is taking a certifying examination in June, he/she will have until April 15th to make a written request for one week of vacation entitlement. Vacation requests should first be submitted to the Rotation Supervisor for approval. Once the vacation request has been approved by the Clinical Supervisor, it should be forwarded to the person responsible for generating the on-call schedule and then the Program Director.

Residents are entitled to recognized statutory holidays, including at least five consecutive days off during the twelve day period that encompasses Christmas, New Year's Day, and two full weekends. These five days off are to account for the three statutory holidays (Christmas, Boxing Day, New Year's Day) and two weekend days. If a resident is scheduled to work on a recognized holiday, he/she is entitled to a paid day off in lieu to be taken at a time mutually convenient within ninety (90) days of the holiday weekend.

There is a Royal College requirement for 1 month of exposure to Pediatric Hematology. As this is a 1 month block, residents should not plan to take leave during this rotation unless they have prior approval from the Rotation Supervisor and the Program Director. Absences resulting in a less than 1 month exposure will need to be made up.

Paid Leave

In addition to vacation entitlement, residents are entitled to additional paid leave (up to a maximum of seven days per year) to attend educational events, such as medical conferences approved by the Program Director, provided that professional and patient responsibilities are met to the satisfaction of the hospital department

head. Residents are also entitled to paid leave for the purpose of taking any Canadian or American professional certification examination (e.g. Royal College Examinations).

Leave of Absence

Interruptions in training which require a leave of absence may be granted by the Postgraduate Dean on recommendation of the Program Director. In order to request a leave of absence from the program, the Resident should complete a Request for Leave of Absence Form that can be obtained from the Postgraduate Medical Education Office website. The form is then submitted to the Program Director for approval and then forwarded to the Postgraduate Medical Education Office. Additional information regarding maternity leave, parental leave, and sick leave entitlements are available through the Postgraduate Medical Education Office website (www.fhs.mcmaster.ca/postgrad).

It is understood that residents will return to a residency program following the leave of absence and that residents are expected to maintain a standard of conduct in keeping with the standards of the residency program, the university and the medical profession at large. It is anticipated that the required time lost or rotations missed must be made up with equivalent extra time in residency upon the resident's return to the program (Royal College of Physicians and Surgeons Policy:4.3.2).

All leaves are reported to the College of Physicians and Surgeons of Ontario by the Postgraduate Medical Education Office.

Medical Leave: A doctor's note must be provided to the Program Director prior to taking a scheduled medical leave. The Postgraduate Medical Education Office must be notified of all leaves of absence. Ministry of Health-funded residents on medical leave will receive full pay for 6 months and after 6 months are eligible to apply for Long Term Disability. The Postgraduate Medical Education Office requires that a medical letter from the resident's physician stating that the trainee is fit to resume training prior to return from medical leave (normally, a doctor's' note is not required for leaves of less than 2 weeks duration, provided the leave is not recurrent).

Compassionate/Personal Leave: The resident must complete the leave form and attach a letter of support from the Program Director. The Postgraduate Medical Education Office normally does not need to be informed about leaves of less than 2 weeks. This is unpaid leave.

Maternity/Paternity Leave: The total amount of time off for a maternity/parental leave is 52 weeks (2 weeks paid EI waiting period, 15 weeks of Maternity Leave, and 35 weeks of Parental Leave). Maternity benefits are paid to the birth mother. The mother can start collecting benefits up to 8 weeks prior to the expected birth. Parental benefits can be claimed by one parent or shared between the two parents but will not exceed a combined maximum of 35 weeks. Parental leave cannot be taken until the birth of the baby. EI will pay a maximum of 50 weeks at a basic benefit rate of 55% of average insured earning up to a maximum payment of $423 per week. For 25 weeks only, Hamilton Health Sciences will top-op salary to 75% of resident earnings based on what is received from EI (to receive top-op, EI stubs must be submitted to Jacqueline Smith-Foster, Payroll, Standard Life Building, 120 King Street West, Suit 200, Hamilton, ON L8P 4V2 or by fax to 905 393 2726). On the last day worked, Jacqueline Smith-Foster should be called (905 393 2700 or 1 877 667 2700). The resident's Record of Employment can be either mailed to the resident or arrangements can be made to pick up. The resident should apply to EI as soon as work is stopped (1-800-206-7218 or www.hrdc-drhc.gc.ca under Employment Insurance-Apply for Employment Insurance).

Resident Research

The Division of Hematology and Thromboembolism is very productive in terms of both clinical and basic science research. Research projects are encouraged and supported in the first year and during the second year there is a four-month elective, at least one month of which **must** be used for research. These projects can include quality assurance projects, systematic reviews, clinical research, or basic science projects. All residents participate in research projects and many have presented their results at national and international meetings (e.g. American Society of Hematology, International Society on Thrombosis and Hemostasis, American Society of Clinical Oncology, Royal College of Physicians and Surgeons of Canada).

In the past, residents have identified difficulty finding a suitable supervisor as a significant obstacle to beginning a research project. To facilitate resident research, seven Resident Research Liaisons corresponding to key areas of hematology research at McMaster University have been appointed (see below). These accomplished, approachable and enthusiastic researchers can help identify potential projects and supervisors and/or provide assistance when needed. Residents are introduced to these representatives early in the year and then expected to make initial contact with the Research Liaison most suited to their interests. The Program Director can also provide guidance on faculty expertise and research interests. Faculty members are happy to discuss potential opportunities with individual residents.

Resident Research Liaisons

Thrombosis
Dr. Wendy Lim (Dr. Howard Chan while Dr. Lim on Maternity Leave)
St. Joseph's Hospital, L208-4
905 522 1155, ext. 6024
limwp@mcmaster.ca

Coagulation/Hemostasis/Transfusion
Dr. Donnie Arnold
McMaster University Medical Centre, HSC 3N43
905 521-2100, ext. 22964
arnold@mcmaster.ca

Hemoglobinopathies
Mr. Andrew Mcfarlane
McMaster University Medical Centre, HSC 2N22
905 521-2100, ext. 76942
mcfarand@HHSC.CA

Malignant Hematology
Dr. Graeme Fraser
Juravinski Cancer Centre, 3rd Floor
905 521-2100, ext. 62499
graeme.fraser@jcc.hhsc.ca

Molecular Genetics/Transplantation
Dr. Brian Leber
McMaster University Medical Centre, HSC 3V49
905 521-2100, ext. 75384
leberb@mcmaster.ca

Quality of Life/Quality Assurance
Dr. Parveen Wasi
McMaster University Medical Centre, HSC 3W10
905 521-2100, ext. 76384
wasip@mcmaster.ca

Resident Research Liaisons (Continued)

Research Methodology
Project development/implementation, result dissemination, resolution of methodologic/statistical issues
Professor Susan Whittaker
McMaster University Medical Centre, HSC 3N43
905 521-9140, ext. 22606
whittak@mcmaster.ca

Hematology residents are excused from clinical duties to attend the annual McMaster Department of Medicine Resident Research Day. During the course of their training, residents must at least submit one abstract for review to the Resident Research Day. Hematology resident research has been very well received at this event. Dr. Cynthia Wu received third prize at the 2007 Resident Research Day for her oral presentation, “A systematic review of the incidence of venous thromboembolism and the effectiveness of prophylaxis in patients with multiple myeloma receiving thalidomide”. At the 2008 Resident Research Day, Dr. Madeleine Verhovsek was awarded second prize in the oral presentation category for her work entitled, “D-dimer as a predictor of disease recurrence in patients with treated provoked venous thromboembolism: a systematic review and meta-analysis”, while Dr. Elizabeth Krakow’s poster, “Cardiac surgery in a man with hemophilia B: the success of multidisciplinary co-operation” was selected as best poster.

Information for New Residents

ASH Membership

Residents are strongly encouraged to become Associate Members of the American Society of Hematology (ASH). Membership costs less than $100.00 and entitles the resident to a subscription of Blood, Blood supplement, and a waiver of Society dues and assessments. It also substantially reduces the cost of registering for the annual meeting. Information about how to become an Associate Member can be found at the ASH website (www.hematology.org).

Department of Medicine Orientation Sessions

The Department of Medicine at Hamilton Health Sciences (McMaster University Medical Centre, Henderson General Hospital, Hamilton General Hospital, and Chedoke Hospital) and St. Joseph's Hospital has a mandatory orientation session for residents to attend at the onset of their first rotation at Hamilton Health Sciences and St. Joseph's Hospital. Topics to be addressed include library services, infection control, pharmacy/medication orders, security, human rights, patient safety, and web-based patient information systems.

E-mail Addresses

Hotmail addresses do not meet security standards required for transmission of confidential information. The Hamilton Health Sciences server will no longer allow mail from web-based clients. All residents are entitled to a McMaster University e-mail address. To register for a McMaster e-mail account, visit the MAC ID page on the McMaster University website and follow the instructions. Medportal e-mail addresses will be provided by Postgraduate Medicine. This is the e-mail account that the Program Director's Office will use to communicate with residents.

Access to E-Journals, Ports and Wireless Access

Access to McMaster University's Technology Service is through MAC ID.

Photocopy Accounts

Hematology residents are provided with an individual photocopy PIN. It is the resident's responsibility to maintain the confidentiality of their PIN.

Residents' Room

The Hematology Residents' Room is located at McMaster University Medical Centre – Room 2N35A. Residents are provided with a key to this locked room, which contains two computers with internet access, a printer, and reference materials. This is the room to which resident mail is delivered.

Royal College of Physicians and Surgeons of Canada Deadlines

It is the resident's responsibility to establish and maintain a professional relationship with the Royal College. Residents who wish to take a speciality examination must have their residency training assessed by the Royal College to ensure that training requirements have been met in a program that is recognized and approved by the College. The resident must initiate this process by submitting an Application for Preliminary Assessment of Training with all appropriate documentation by the specified deadline.

Workplace Hazardous Materials Information System (WHMIS)

WHMIS sessions are mandatory for all new residents. The Postgraduate Medical Education Office will distribute dates and times in early July. Hematology residents are also required to complete Core WHMIS (Laboratory WHMIS). Documentation of course completion must be submitted to the Program Director's Office. Training dates and schedules can be found at http://www.workingatmcmaster.ca/eohss/training/

General Overview of Rotations

First Year

Cell Diagnostics: Training is provided in blood, bone marrow, and lymph node morphology; as well as the use of special stains, flow cytometry, cytogenetics, DNA diagnostics, and molecular biology in the evaluation of malignant and nonmalignant hematologic diseases. This rotation occurs primarily at the Henderson site.
Red Cell Disorders: This rotation covers red blood cell laboratory analysis and morphological assessment, as well as special laboratory investigations for anemias, disorders of iron metabolism, and hemoglobinopathies, with emphasis on protein analysis and molecular techniques. This rotation occurs at both the St. Joseph's and McMaster sites. During this rotation, the resident also participates in ambulatory clinics in general hematology and hemoglobinopathies.
Transfusion Medicine: This rotation allows the resident to develop expertise in the principles and practices of transfusion medicine including serology; platelet and white cell immunobiology, blood product utilization and conservation (including transfusion practices specific to pediatrics, obstetrics, allogeneic and autologous transplantation, cardiac and vascular surgery, trauma, critical care, and neurosurgery). During this rotation, the resident also participates in ambulatory clinics in general hematology and hemophilia, as well as in- and out-patient consultations. This rotation occurs primarily at the McMaster site, as well as at the Hamilton General site.
Hemostasis/Coagulation: This rotation covers the theory and laboratory principles of coagulation, platelet disorders, and thrombophilia enabling the resident to acquire expertise in the principle, methodology, and interpretation of coagulation disorder investigations, prothrombotic work-ups, and platelet testing. Residents also participate in two half-day outpatient clinics focused on platelet and hemostatic disorders, a half-day hemophilia clinic, and consultations on in-patient hemostatic disorders. This rotation occurs primarily at the McMaster site.
Thromboembolism: This rotation is primarily clinical and involves in-patient and out-patient exposure to patients with suspected venous thromboembolism or with other questions relating to the use of antithrombotic therapy for the management of venous or arterial disease. There is one-half day clinic per week with a focus on thrombosis issues unique to women. Teaching is centered on the diagnosis, prevention, and treatment of thromboembolic disorders; the management of thrombophilias; recent clinical and laboratory research in thrombosis and fibrinolysis; and review of the fundamentals of hemostasis and coagulation. This rotation occurs primarily at the Henderson and Hamilton General sites, with additional ambulatory clinics at the McMaster site.
Pediatrics: In-depth training is provided in both in-patient and out-patient pediatric hematology. The care of neonatal and pediatric hematologic disorders and the team approach to patient care are emphasized. This rotation occurs at the McMaster site.
Junior Hematology Attending: This rotation, which includes inpatient and outpatient Hematology exposure, is designed to provide an experience that will facilitate the resident's education in becoming a competent consultant in Clinical Hematology. The goals of this experience are to develop consultancy and time management skills required to practice Clinical Hematology, as well as to allow the Hematology Resident experience in supervision and education of junior residents and medical students.
Longitudinal Clinics: Concurrent with their first year rotations, residents participate in two to three weekly ambulatory clinics for blocks of four to six months duration. Residents are provided with a list of available clinics and are responsible for choosing one that does not conflict with rotation-specific teaching sessions or clinics.

Second Year

Clinical Hematology (Adult): Two rotations at the McMaster and Henderson sites cover both in-patient and out-patient general and malignant hematology. Residents are exposed to a full spectrum of hematologic disorders and their management, including allogeneic and autologous transplantation.
Medical Oncology: The goal of this rotation is to allow the hematology resident to gain exposure to medical oncology patients; however, there is no expectation that the resident will become an expert in the diagnosis or management of solid tumours.
Elective: This four month block is used to provide the resident with an interesting and challenging exposure to basic or applied hematology-related research or to provide additional clinical exposure (may include community-based electives). Electives are coordinated through the Program Director and must include 1 month of research.

**At the discretion of the Program Director and with the consent of the specific resident(s) involved, residents may be asked to undertake clinical rotations usually undertaken in the second year in the first year, instead. This will only occur when resident numbers are not balanced between the first and second years of the program, resulting in unfilled clinical blocks.*

CELL DIAGNOSTICS ROTATION
Henderson General Hospital

(UPDATED JUNE 22, 2009)

I. OVERVIEW

This is a laboratory-based rotation focused on the basic science, clinical and laboratory aspects of the diagnosis of hematologic disorders, with an emphasis on hematologic oncology. The rotation is based at the Henderson General Hospital (HGH) – the site of the Regional Flow Cytometry and Special Stains Unit for leukemia and lymphoma. The HGH is adjacent to and is the supporting hospital for the Juravinski Cancer Centre (JCC). Aside from a busy outpatient clinic servicing malignant hematology at the JCC, the Hematology Ward at the HGH contains up to 22 designated in-patient beds for hematology patients within Hamilton Health Sciences, including the autologous stem cell transplant unit.

Resident Responsibilities

1. The resident is expected to review all slides within the teaching slide set, as described below, under the supervision of Dr. M. Trus.
2. The resident is expected to read and interpret diagnostic bone marrow samples that the laboratory processes. All cases are reviewed with a faculty member. Initially (usually during the first two to three weeks) the samples will be viewed with the faculty. After the first month of the rotation, the resident is expected to independently interpret the samples, with subsequent review and discussion by faculty. The resident will review the principles of lymph node and spleen pathology and bone marrow biopsy interpretation with Dr. C. Ross. Residents are not expected to develop the expertise to independently interpret lymph node biopsies and spleen specimens within the two month period of the rotation. However, residents are expected to become proficient in the interpretation of bone marrow biopsies. When available, additional teaching will occur at St. Joseph's Hospital, under the supervision of Dr. P. Powers.
3. The resident is responsible for a presentation to Dr. B. Leber at a weekly tutorial session. Articles from basic science journals that relate to the cellular and molecular biology of hematologic malignancies are presented by the resident. Strong emphasis is placed on understanding the methodology used in the articles and critically appraising its relevance to the questions addressed.

    a. During the eight tutorial sessions, the resident will be exposed to articles wherein the following **Basic Science Techniques** are used:
        i. Gene cloning and sequencing
        ii. Polymerase chain reaction
        iii. Western blots
        iv. Southern blot and restriction enzyme analysis
        v. Transgenic and knock-out/conditional knockout; knock-in mice to assess gene function
        vi Microarrays
        vii. Northern blots

    b. The **Topics** covered during these sessions include:
        i. Stem cell biology
        ii. Identification of growth factors and their ligands
        iii. Signal transduction pathways
        iv. Transcription factor dysregulation in leukaemia/lymphoma
        v. Cell cycle analysis
        vi. Role of apoptosis in tumour development
        vii. Clonality
        viii. Formation of hybrid proteins by chromosomal translocation
        ix. Various means used to detect minimal residual disease after therapy

    c. **Specific Disease** examples that are studied in detail to examine some of these topics include:
        i. t(14:18) translocation in follicular lymphomas as a way of understanding the biology and biochemistry of apoptosis
        ii. bcr-abl translocation in chronic myeloid leukemia as an example of subverted intracellular signal transduction

iii. t(15:17) translocation in acute promyelocytic leukemia as an example of altered regulation of transcription and differentiation in leukemia due to chromosomal translocation

The preceding examples are also used to explore the use of molecular techniques for the diagnosis and assessment of minimal residual disease, as well as discussing the role of the different techniques (chromosomal analysis, FISH, Southern blot analysis and the polymerase chain reaction) as an adjunct to the morphologic diagnosis of hematologic malignancies. The resident will be exposed to representative cases examined by each of these techniques.

4. The resident attends the interdisciplinary Regional Lymphoma Rounds (first and third Tuesday of each month) and Regional Leukemia Rounds (second and fourth Tuesday of each month). During these rounds (both of which last 90 minutes) cases are presented by clinicians, relevant diagnostic tests are presented (including results of bone marrow and lymph node morphology, flow cytometry, molecular and conventional cytogenetics), and treatment plans are discussed. The resident is expected to synthesize the available laboratory diagnostic information in individual cases and participate in the discussion concerning these patients. Once during the rotation, the resident will present a current paper from the hematologic literature concerning diagnosis or pathophysiology of a malignant hematologic disorder to the clinicians at Leukemia or Lymphoma Rounds. The resident is expected to use the principles of critical appraisal acquired during the tutorial sessions with Dr. Leber.
5. The resident is expected to acquire a basic understanding of the principles of flow cytometry and the characteristic immunophenotypes of common hematologic disorders The resident will spend one half-day per week with the technical flow specialist, Mr. J Davidson, to review the principles of flow cytometry.
6. The resident will spend one day at the regional Cytogenetics/Molecular Genetics laboratory at McMaster Medical Centre, where clinical samples from patients with lymphoma and leukaemia are processed and analyzed for chromosomal/genetic abnormalities by G-banding, FISH, and RT-PCR.

On-Call Duties

The resident participates in the same on-call duties covered by the hematologists on site at the Henderson Hospital. Residents do an average of one-in-seven evenings and one-in-four weekends (both out-of-hospital call) that covers the in-patient ward (including patients with leukemia, lymphoma, Hodgkin's disease, and patients undergoing autologous stem cell transplantation) and any new consultations. A faculty member is assigned to back-up the resident when the resident is on call. The on-call duties provide the residents with important experiences in dealing with urgent and nonurgent adult clinical hematology problems.

Teaching Faculty

Dr M. Trus: Clinical hematologist and scientist. Rotation coordinator. Conducts teaching sessions on the interpretation of peripheral blood, bone marrow aspirates and bone marrow biopsies. Incorporates teaching on the use of flow cytometry and molecular tests into the review of diagnostic bone marrow aspirates.

Dr. B. Leber: Conducts weekly tutorial session on cell and molecular aspects of disease pathogenesis and diagnosis. Supervises and reviews interpretation of diagnostic marrow aspirates.

Dr. S.R. Foley: Clinical hematologist. Director, Stem Cell Laboratory. Supervises and reviews interpretation of diagnostic marrow aspirates.

Dr. C. Ross: Hematopathologist. Teaches principles of lymph node, spleen, and bone marrow biopsy interpretation. Presents pathology of cases at Regional Lymphoma and Leukemia Rounds.

Dr. R. Carter: Director, Regional Cancer Cytogenetics and Molecular Genetics Laboratory. Supervises exposure to cytogenetics/molecular genetics laboratory.

Mr. J. Davidson: Technical specialist in flow cytometry. Conducts teaching sessions in flow cytometry.

Ms. W. Patterson, ART: Senior technologist, Bone Marrow collection and preparation. Teaches principles of bone marrow aspirate and biopsy sample acquisition and preparation.

Dr. P. Powers: Hematologist at St. Joseph's Hospital. Conducts teaching sessions on the interpretation of peripheral blood and bone marrow aspirates.

Clinical Faculty

Dr. A. Benger
Dr. S.R. Foley
Dr. G. Fraser
Dr. D. Marcellus
Dr. C. Kouroukis
Dr M. Trus

Resources

1. The residents have access to a bank of teaching slides that contain diagnostic samples of peripheral blood and bone marrow aspirates from the complete range of hematologic disorders, both malignant and non-malignant of both adult and pediatric hematologic disorders (anemia and other cytopenia, storage disorders, leukemia, lymphoma, blood-borne infections, etc). The slides are contained in 12 boxes, each of which contains >20 slides.
2. The HDH Laboratory is the regional laboratory for Southwest Ontario for flow cytometry and molecular diagnosis of leukemia and lymphoma. Approximately 2,600 samples are received per year for evaluation by flow cytometry, and over 120 samples for molecular evaluation by PCR and Southern blot analysis to detect clonal rearrangements of the immunoglobulin and T cell receptor genes, thus providing a wealth of clinical material to illustrate the principles of diagnosis using these techniques. In addition, the laboratory receives over 700 bone marrow aspirate samples per year, including evaluation of all pediatric bone marrow samples for malignancy that are done at the Children's Hospital, McMaster University medical Centre.
3. Residents have access to current textbooks and atlases of Hematology in the Laboratory, including the WHO Atlas describing the most recent classification of hematologic malignancies. Additionally, within the department and on-site in the lab, archives and ongoing subscriptions to hematology and basic science journals (both regular and on-line) are available, including Blood, British Journal of Haematology, American Journal of Hematology, Leukemia, Science, Nature, Nature Genetics, Nature Cell Biology, Nature Medicine, Cell, EMBO J.

Weekly Schedule

An example of the weekly schedule is summarized on this next page (specific days may change based on the schedules of the teaching staff):

Time	Monday	Tuesday	Wednesday	Thursday	Friday
AM	• Resident reviews flow cytometry cases provided by Mr. J Davidson on his/her own • Review of daily marrow aspirates and peripheral blood cases	• Regional Leukemia and Lymphoma Rounds • Review marrows and Tutorial (Dr. Leber)	• Resident reviews lymph node and bone marrow biopsy cases provided by Dr. Ross and daily marrow aspirates and peripheral blood cases on his/her own	• Resident reviews daily marrow aspirates and peripheral blood cases on his/her own at St. Joseph's Hospital	• Academic Half Day
PM	• Review of daily bone marrow aspirates • Flow teaching	• Review of daily bone marrow aspirates and peripheral blood smears	• Review of daily bone marrow aspirates and peripheral blood samples • Review of lymph node and bone marrow biopsy cases with Dr. Ross	• Review of daily bone marrow aspirates and peripheral blood (Dr. Powers)	• Morphology teaching (Dr. Trus) • Review of daily bone marrow aspirates (Dr. Trus)

Resident Evaluation

Residents are provided with weekly feedback concerning their performance in presenting tutorials with Dr. Leber, their proficiency in interpreting laboratory test results, peripheral blood and bone marrow aspirate morphology, and in managing clinical problems when on-call. Feedback for on-call duties is provided by the faculty member working with the resident, particularly when they share weekend on call duties.

The resident meets with the rotation supervisor at the mid-point of the rotation to complete a Mid-Unit Evaluation, provide two-way feedback on the rotation, and discuss the goals for the remainder of the rotation. On completion of the rotation, a formal web-based CanMEDS compliant evaluation is completed by the rotation supervisor, with feedback from the other individuals (using a Multisource Feedback Form). Final evaluations are discussed with the resident.

Residents are given an exam 1 week before the end of the rotation that has a written component and a morphology component. The written includes aspects of both benign and malignant hematology. The morphology portion includes 15-20 slides of Wright Giemsa stained peripheral bloods, bone marrow aspirates, and H&E stained bone marrow biopsies including benign and malignant conditions.

Rotation Evaluation

Residents are encouraged to provide feedback on how the rotation and teaching are structured. Resident input has been enthusiastically received. In this rapidly expanding area where a two month rotation can only serve as an introduction to learning the core concepts in this complex and rapidly changing topic, resident input with respect to topic updates with respect to disease content areas and laboratory methodology has been invaluable. As with all hematology rotations, a formal anonymous evaluation of the rotation is handled by a web-based system. Teaching faculty are evaluated separately in a similar manner, as for other rotations. Separate from

these evaluations, hematology residents have met every 1 – 2 years to compile a collective rotation evaluation, respecting anonymity. With the size of our program, this has been important in maintaining feedback.

II. GOALS AND OBJECTIVES

The general goal of this laboratory rotation is to provide the resident with an understanding of the following topics:

1. Principles used in cell staining, and automated cell counting
2. Benign and malignant hematologic morphology (peripheral blood, bone marrow aspirates, and bone marrow biopsies)
3. Leukemia/lymphoma diagnosis and classification, including the use of flow cytometry and molecular and classical cytogenetics
4. Molecular analysis in hematologic malignancies
5. Common chromosomal abnormalities found in the hematologic malignancies
6. Methodologies used in cell and molecular biology to study the changes at the genetic cellular levels that occur in leukemia and lymphoma
7. Basic concepts of growth factor receptors, their interaction with their ligands and different intracellular signal transduction pathways, and role in controlling gene transcription, and how this basic process is subverted in hematologic malignancies

The following sections outline the rotation expectations in domains of medical expert (primary focus of the rotation) and in the domains of communicator, collaborator, manager, health advocate, scholar and professional.

Medical Expert

Key Competencies: *Physicians are able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-related medical care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice
3. Perform a complete and appropriate assessment of a patient
4. Use preventive and therapeutic interventions effectively
5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Specific Requirements:

1. The hematology resident must demonstrate in depth knowledge in the following general areas (details as outlined above):
    a. Developmental cell morphology (both within the growing individual and within the marrow of an individual at a specific age) including changes in normal values with age
    b. Structure and function of factors and cells involved in hematopoiesis
    c. Pathophysiology of leukemia/lymphoma, myeloma and related disorders
    d. Interpretation of laboratory tests used in cell diagnostics
2. The resident must demonstrate the ability to perform the following technical skills:
    a. Ability to properly order, use and interpret tests of cell diagnostics in patients with malignant hematologic disorders
    b. Bone marrow aspiration/biopsies and lumbar punctures, if performed during the rotation

Communicator

Key Competencies: *Physicians are able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals

4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about a medical encounter

Specific Requirements:

1. The resident must be able to:
    a. Communicate effectively with clinical and laboratory staff and discuss appropriate information with patients and families and all members of the interdisciplinary health care team
    b. Establish effective relationships with patients, family members and other caregivers in order to obtain a meaningful history, conduct a relevant physical examination, and to properly manage a patient's medical problem
    c. Understand the psychosocial aspects of caring for patients with acute, chronic and life threatening disorders, and the impact of illness on their families
    d. Understand the biomedical ethics involved in the investigation and care of patients with hematological disorders, including the appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of "standard medical treatments"
    e. Demonstrate effective communication skills by presenting concise, informative overviews on topics in the diagnosis of malignant hematologic disorders
    f. Demonstrate effective communication skills by drafting accurate, organized and timely reports describing the findings of bone marrow aspirates

Collaborator

Key Competencies: *Physicians are able to…*

1. Participate effectively and appropriately in an interprofessional healthcare team
2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

Specific Requirements:

1. The hematology resident should be able to:
    a. Contribute clinically useful hematological opinions on patients referred for consultation, including ordering and arranging for specific testing, administering required therapy, and conveying the results of the hematological opinion to referring physicians. This process involves integrating information from multiple sources to construct a clear diagnosis which is then used to guide the patient's therapy. This may require integrating the results of the morphological interpretation with flow cytometry, cellular diagnostics and lymph node pathology
    b. Consult and collaborate with physicians, laboratory staff, clinic staff, and other health care professionals, and contribute effectively to interdisciplinary team activities within and between hospitals, other health care facilities and collaborative groups

Manager

Key Competencies: *Physicians are able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Specific Requirements:

1. The hematology resident should be able to:
    a. Demonstrate knowledge of the definitions and role of audits, quality improvement, risk management and incident reporting in a hospital and ambulatory setting, particularly as applied to cell diagnostics
    b. Demonstrate understanding of cost/benefit ratios of diagnostic and therapeutic interventions, cost containment and efficacy as they relate to quality assurance, particularly as they apply to cell diagnostics
    c. Demonstrate familiarity with the following: the processes of laboratory accreditation and licensing; how physicians manage the implementation and conduct of proper laboratory procedures; review

examples of ISO-compliant laboratory procedures in cell diagnosis; principles of quality assurance and quality control practices; responsibilities of hematologists to report and communicate abnormal results
d. Be able to prioritize sample processing in the face of limited resources

Health Advocate

Key Competencies: *Physicians are able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that they serve
3. Identify the determinants of health of the populations that they serve
4. Promote the health of individual patients, communities and populations

Specific Requirements:

1. The hematology resident should be able to:
    a. Demonstrate an appreciation of the health care needs of patients with malignant hematological disorders
    b. Encourage the promotion of active family involvement in decision-making and continuing management
    c. Understand the ways effective laboratory support is important to patients with medical problems
    d. Advocate for patients if there are delays in diagnosis and management as a result of limited resources

Scholar

Key Competencies: *Physicians are able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

Specific Requirements:

1. The hematology resident should:
    a. Provide evidence in the material that they present during weekly tutorial that they are acquiring an appropriate level of in-depth knowledge pertaining to cell diagnostics and a current understanding of the pathophysiology of malignant hematologic disorders
    b. Develop critical appraisal skills specific to the hematological literature, particularly as it applies to the physiology and pathophysiology of malignant hematologic disorders

Professional

Key Competencies: *Physicians are able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice.

Specific Requirements:

1. The hematology resident should:
    a. Deliver highest quality care with integrity honesty and compassion
    b. Exhibit appropriate personal and interpersonal professional behaviour
    c. Practice medicine ethically consistent with obligations of a physician
    d. Be courteous and punctual
    e. Follow-up on patients evaluated
    f. Arrange additional laboratory investigations, as appropriate, for patient problems

IN-TRAINING EVALUATION REPORT FOR CELL DIAGNOSTICS ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	Satisfactory	*Provisional Satisfactory	*Unsatisfactory	*Incomplete
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
b) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				
Rotation Supervisor Comments *Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.*				

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – CLINICAL AND/OR PROCEDURAL						
q) Demonstrates a good understanding of basic science relevant to Cell Diagnostics.						
r) Demonstrates a good understanding of clinical knowledge relevant to Cell Diagnostics.						
s) Selects medically appropriate investigations in a resource effective and ethical manner and is able to interpret the results of these investigations.						
t) Demonstrates proficiency in formulation of differential diagnosis.						
u) Uses an evidence-based approach to decision making.						
v) Uses all pertinent clinical, laboratory, and radiological information to arrive at complete and accurate clinical decisions.						
w) Seeks appropriate consultation from other health professionals.						
x) Identifies critical results that require urgent action.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL						
a) Demonstrates proficiency in the identification of anemia and formulation of differential diagnoses.						
b) Demonstrates proficiency in identification of abnormal red cell morphology and formulation of differential diagnoses.						
c) Demonstrates proficiency in identification of abnormal platelet numbers and morphology and formulation of differential diagnoses.						
d) Demonstrates proficiency in identification of abnormal blood counts and morphology of neutrophils/monocytes and formulation of differential diagnoses.						
e) Demonstrates proficiency in identifying abnormal lymphocyte morphology and formulation of differential diagnoses.						
f) Demonstrates ability in identifying different types of microorganisms in the peripheral blood.						
g) Demonstrates an ability to identify features of myelodysplasia (MDS) in peripheral blood and bone marrow samples and appropriately classifies.						
h) Demonstrates an ability to identify acute leukemias in peripheral blood and bone marrow samples and appropriately classify using special cytochemistry.						
i) Has an understanding of the molecular genetics of acute leukemia in respect to pathogenesis, classification, and clinical outcomes.						
j) Demonstrates an ability to identify and classify lymphoma cells in blood and bone marrow aspirates/biopsies.						
k) Demonstrates an ability to identify and classify non Hodgkins and Hodgkins lymphoma in lymph node biopsies.						
l) Knowledge of the chromosomal abnormalities found in non Hodgkin's lymphoma and their role in pathogenesis.						
m) Demonstrates an ability to identify malignant plasma cell morphology.						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL (CONTINUED)						
n) Demonstrates an ability to identify abnormal cells in bone marrow aspirates and biopsies (Gaucher cells, metastatic cells, etc).						
o) Understands the principles of flow cytometry.						
p) Understands flow cytometry markers in malignant hematological disorders.						
q) Understands standard molecular techniques of PCR, Southern Blotting, and real-time PCR and their application to diagnosis of hematological disorders.						
r) Recognizes the importance of new technologies available to classify hematological malignancies such as microarrays.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes good relationships with laboratory staff (i.e. technologists) and teaching staff.						
b) Is able to clearly communicate the importance and need for additional testing on clinical samples to support staff and teaching staff.						
c) Provides clear and thorough explanations of diagnosis, investigation, and management to teaching staff.						
d) Demonstrates an understanding of, and sensitivity to, issues involving disabilities, gender, race, and culture when communicating with caregivers.						
e) Presentations at Leukemia and/or Lymphoma rounds are well-prepared and organized.						
f) Is able to present his/her interpretations of molecular biology papers in a manner that conveys understandings of relevant principles.						
g) Is able to teach aspects of haematology and medicine as they pertain to cell diagnostics to support staff and residents from other disciplines.						
h) Prepares accurate, organized and timely written documentation (including bone marrow reports).						
i) Effectively presents verbal reports and plans in an accurate, complete and organized fashion.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Ability to contribute clinically useful hematological opinions on patients and convey the results of the hematological opinion to referring physicians.						
b) Interacts effectively with health professionals by recognizing and acknowledging their roles and expertise.						
c) Recognizes the urgency of critical results and contacts the appropriate attending or covering physician to convey such results.						
d) Effective collaborator as assessed by at least 2 allied health care professionals using Multisource Feedback Forms. *Remember to forward original forms to the Program Director's Office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases).						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an ability to use time efficiently in reviewing material to be covered in sessions with teaching staff.						
d) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments.						
e) Understands the principles of practice management.						
f) Coordinates the efforts of the laboratory team so that tests are undertaken at appropriate times.						
g) Demonstrates good time management skills in respect to draft interpretation of bone marrow reports.						
h) Demonstrates good time management skills in respect to dictation of patient notes and sign-over reports.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health.						
b) Encourages the promotion of active family involvement in decision-making and continuing management.						
c) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care.						
d) Works with patients and caregivers to obtain needed services for care and on-going family support.						
e) Identifies determinants of health affecting communities and understands the specialist's role to advocate for and to intervene on behalf of the community with respect to biologic, psychosocial, and economic factors that may affect health.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective and ongoing personal learning strategy.						
b) Understands the principles of life-long learning and helps others to learn by providing guidance and teaching, and by giving constructive feedback.						
c) Does self-directed learning prior to interactions with colleagues.						
d) Demonstrates an understanding of the importance of research to the practice of clinical medicine and has an understanding of the principles of clinical research.						
e) Demonstrates the skill of contributing to the development of new knowledge by the performance of case reports, original scientific research, or participation in the performance of continuous quality improvement or quality assurance.						
f) Is able to critically appraise medical information. Successfully integrates information from a variety of sources.						
g) Meets core content knowledge for the rotation.						
h) Presentations are well prepared, clear, concise, make appropriate use of audiovisual aids and demonstrate an ability to synthesize and convey information effectively.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Delivers high quality care with integrity honesty and compassion.						
b) Exhibits appropriate personal and interpersonal professional behaviour.						
c) Does self-directed learning prior to interactions with colleagues.						
d) Practices medicine ethically consistent with obligations of a physician.						
e) Is courteous and punctual.						
f) Follows-up on patients evaluated.						
g) Arranges for additional appropriate investigations for patient problems.						
Comments						

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

CLINICAL HEMATOLOGY ROTATION
McMaster University Medical Centre

(UPDATED OCTOBER 28, 2009)

I. OVERVIEW

Name and Location of Rotation

The Clinical Hematology Rotation for Hematology Residents is based at the Blood Disorders Unit of McMaster University Medical Centre. This is a four-month rotation aimed at developing the competence required to practice clinical hematology independently the following year.

Nature of the Patients on this Rotation

The resident will experience a full spectrum of hematological disorders including hematological malignancies, platelet disorders (particularly immune thrombocytopenia and thrombotic thrombocytopenic purpura), and other hematological immune disorders. Allogeneic bone marrow transplantation is an experience exclusive to this rotation. The resident will build on the experience in transfusion medicine and coagulation disorders first gained during their first year and, through off ward consultations, will continue to gain experience and to teach the management of hematologic problems experienced by the general hematology population. On this rotation, residents will have good experience in managing patients with non Hodgkin's lymphoma, however, they will have less experience of Hodgkin's Lymphoma as these patients being seen mostly during the Henderson Hospital rotation.

Responsibilities of the Resident

Specific Expectations (contribute significantly to evaluation)

a. ***Start work at least 30 minutes before rounds so as to be knowledgeable at rounds.***
b. ***Take a lead at morning rounds.***
c. ***Work collaboratively with nurses and other allied health professionals.***
d. ***Ensure that all discharge summaries are dictated within 24 hours.***
e. ***Teach medical residents, both those on rotation and on CTU (Dr. Wasi will schedule).***
f. ***Generate and submit to the Rotation Supervisor at the beginning of the rotation a schedule for haematology and internal medicine resident ambulatory clinic attendance.***
g. ***Regularly attend at least two half-day ambulatory clinics per week.***
h. ***Organize Bone Marrow Transplant Seminars with faculty members, as outlined below:***
    - ***Introduction to bone marrow transplant (Dr. P. Wasi)***
    - ***HLA typing (2 sessions, Ms. K Greene and Dr. B. Leber)***
    - ***Preparative regimens (Dr. B. Leber)***
    - ***Veno-occlusive disease (Dr. B. Leber)***
    - ***Acute and chronic graft versus host disease (2 sessions, Dr. I. Walker)***
    - ***Immune reconstitution (Dr. B. Leber)***
    - ***Infectious complications of stem cell transplantation (Dr. P. Wasi)***
    - ***Long-term complications of bone marrow transplantation (Ms. K Greene, Dr. I. Walker)***

The resident is responsible for the welfare of all in-patients, for patients attending Medical Day Care, and for those patients whom he or she follows in the clinic. Continuity of care is expected. The rotation is under supervision; nevertheless, the resident is expected to make decisions and aim towards a role of consultant. He or she is expected to consult literature where necessary and to debate the merits of various treatment approaches with the consulting staff. The nursing staff should feel sufficiently confident in the resident that the responsible physician can remain in a supervisory role. Continuity of care includes ensuring care between all areas in the unit and beyond, and taking responsibility for communicating with family physicians and other health care professionals, transferring information in writing to other physicians when going off duty. Discharge summaries are to be dictated within 48 hours of discharge and clinic letters dictated on the same day. The

resident is expected to teach internal medicine rotators. The resident is expected to develop an appreciation of the unit's advanced commitment to multidisciplinary care; morning rounds are held daily, cases are presented by the nurses, and there is strong input by allied health professionals. Residents are expected to express the physician's assessment and recommendations, though the consultant will be present.

The resident is expected to attend all education and patient management meetings. The resident is expected to present cases at these rounds and to prepare a minimum of three academic presentations. Attendance at regional lymphoma, leukaemia and stem cell rounds, held at both Juravinski Cancer Centre and MUMC, is included in the expectations.

On-Call Duties

The after hours on-call out-of-hospital duties are shared with the consulting staff at an approximate ratio of one evening per week and one weekend per month. When residents are on-call, they are the physician of first contact, but are appropriately supervised and backed up by one of the faculty. This call is confined to care of hematological patients and will be valuable experience contributing to meeting the objectives of this rotation.

Faculty

All of the following take part in on-call duties, those marked with an * take overall responsibility for inpatient activities during month-long service rotations:

Dr. B. Leber*
Dr. I. Walker* (Rotation Supervisor)
Dr. P. Wasi*
Dr. K. Webert
Dr. D. Arnold
Dr. E. Krakow

Resources

The Blood Disorders Unit is an innovative facility which combines within the one area, an Inpatient Ward, Medical Day Care Unit, Pheresis Unit and Clinic. Health professionals specializing in pharmacy, nutrition, social work, physiotherapy, and the bone marrow transplant coordinator, are all based on the Unit. Individuals with blood disorders, therefore, can be managed at all levels of illness within the one unit and with the same staff. On rare occasions patients may require transfer to the hospital Intensive Care Unit, in which case they continue to be followed by the Blood Disorders Unit staff. This is an ideal setting in which to instill principles of continuity of care.

The Inpatient area has 14 beds, of which 11 are funded, leaving empty beds for "over-census" admissions. Admission policy is flexible, allowing for "over-census" admissions, which minimises the use of the ER.

The average number of new cases per year of acute leukemia is 12, of allogeneic marrow transplants is 25, and of new cases of thrombotic thrombocytopenic purpura is three.

The Clinic area is available every weekday. The approximate yearly census is 650 new patients and 6250 follow up visits.

The Plasmapheresis Unit carries out plasma exchanges, stem cell collections, and occasional buffy coat collections, totalling approximately 450 yearly.

The Medical Day Care unit carries out a full range of supportive services and medical procedures. The number of yearly visits is about 5250, with 850 chemotherapy administrations, 500 blood transfusions, 750 administrations of IVIG, and other procedures. The Unit is used primarily for patients with hematological problems and activities include the performance of non-myeloablative allogeneic transplantation.

Resident Evaluation

Residents are provided with feedback during the rotation concerning their proficiency in managing clinical problems and their performance in informal and formal teaching sessions. Feedback for on-call duties is provided by the faculty member working with the resident, particularly when they share weekend on-call duties. Resident dictations are formally evaluated (see Structured Assessment of Resident Dictation Form). Residents are also formally assessed on their ability to lead team meetings and their progress in assuming a leadership role.

The resident meets with the rotation supervisor at the mid-point of the rotation to complete a Mid-Unit Evaluation, provide two-way feedback on the rotation, and discuss the goals for the remainder of the rotation. On completion of the rotation, a formal web-based CanMEDS compliant evaluation is completed by the rotation supervisor, with feedback from the other individuals, including allied health professionals (using a Multisource Feedback Form). Final evaluations are discussed with the resident.

Evaluation of the Rotation

Residents are encouraged to provide feedback on how the rotation and teaching are structured. Resident input has been enthusiastically received. As with all hematology rotations, an anonymous formal evaluation of the rotation is handled by a web-based evaluation system. Teaching faculty are evaluated separately in a similar manner, as for other rotations. Separate from these evaluations, hematology residents meet every 1-2 years to compile a collective rotation evaluation.

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies: *Physicians on this rotation are required to be able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to haematology, including:
    a. Development, structure and function of the hemopoietic system
    b. Pathophysiology of alterations in morphology and quantity of formed elements in the blood
    c. Indications for and interpretation of common hematologic tests
    d. Principles underlying transfusion of blood and blood products
    e. Characteristics and principles of investigation and treatment of the following hematological conditions:
        i. Acute myeloid leukemia
        ii. Acute lymphoblastic leukemia
        iii. Non Hodgkin's lymphoma
        iv. Allogeneic bone marrow transplantation
        v. Thrombotic thrombocytopenic purpura
        vi. Immune thrombocytopenia
        vii. Myeloproliferative disorders
        viii. Anemia
    f. Infectious complications in patients with cancer and non-malignant hematologic disorders
3. Perform a complete and appropriate assessment of a patient
4. Use preventive and therapeutic interventions effectively
5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Enabling Competencies: *Physicians are able to...*

1. **Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care**

1.1 Effectively perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional
1.2 Demonstrate effective use of all CanMEDS competencies relevant to Hematology
1.3 Identify and appropriately respond to relevant ethical issues arising in patient care
1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems
1.5 Demonstrate compassionate and patient-centered care
1.6 Recognize and respond to the ethical dimensions in medical decision-making
1.7 Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice

2.1 Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Hematology including the appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of "standard medical treatments"
2.2 Describe the RCPSC framework of competencies relevant to Hematology and Internal Medicine
2.3 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence
2.4 Contribute to the enhancement of quality care and patient safety in their practice, integrating the available best evidence and best practices

3. Perform a complete and appropriate assessment of a patient

3.1 Effectively identify and explore issues to be addressed in a patient encounter, including the patient's context and preferences
3.2 For the purposes of prevention and health promotion, diagnosis and or management, elicit a history that is relevant, concise and accurate to context and preferences
3.3 For the purposes of prevention and health promotion, diagnosis and/or management, perform a focused physical examination that is relevant and accurate
3.4 Select medically appropriate investigative methods in a resource-effective and ethical manner
3.5 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans

4. Use preventive and therapeutic interventions effectively

4.1 Implement an effective management plan in collaboration with a patient and their family
4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the physician's practice
4.3 Ensure appropriate informed consent is obtained for therapies
4.4 Ensure patients receive appropriate end-of-life care

5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic

5.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to hematology, including bone marrow aspiration and biopsy, lumbar puncture, and care and use of central venous lines (including tunneled catheters). Residents are to review the instructional video and .pdf document on bone marrow aspiration and biopsy available through the link at http://content.nejm.org/cgi/content/short/361/15/e28. Similar resources are available for the performance of lumbar punctures at http://content.nejm.org/cgi/video_dl/355/13/e12. Residents must be supervised during their performance of bone marrow aspiration and biopsy, as well as diagnostic and therapeutic lumbar punctures, unless they have been certified to perform the procedure independently on their one45 procedure log.
5.2 Demonstrate effective, appropriate, and timely performance of therapeutic procedures (including intrathecal chemotherapy administration, thoracentesis, and paracentesis) relevant to their hematology
5.3 Ensure appropriate informed consent is obtained for procedures

5.4 Appropriately document and disseminate information related to procedures performed and their outcomes
5.5 Ensure adequate follow-up is arranged for procedures performed

6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

6.1 Demonstrate insight into his/her limitations of expertise via self-assessment
6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care
6.3 Arrange appropriate follow-up care services for a patient and their family

Communicator

Key Competencies: *Physicians on this rotation are able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about a medical encounter

Enabling Competencies: *Physicians are able to...*

1. Develop rapport, trust, and ethical therapeutic relationships with patients and families

1.1 Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes
1.2 Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy
1.3 Respect patient confidentiality, privacy and autonomy
1.4 Listen effectively
1.5 Be aware and responsive to nonverbal cues
1.6 Effectively facilitate a structured clinical encounter

2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals

2.1 Gather information about a disease, but also about a patient's beliefs, concerns, expectations and illness experience
2.2 Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals

3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals

3.1 Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making

4. Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care

4.1 Effectively identify and explore problems to be addressed from a patient encounter, including the patient's context, responses, concerns, and preferences
4.2 Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making
4.3 Encourage discussion, questions, and interaction in the encounter

4.4 Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care
4.5 Effectively address challenging communication issues such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding

5. Convey effective oral and written information about a medical encounter

5.1 Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans
5.2 Effectively present verbal reports of clinical encounters and plans
5.3 When appropriate, effectively present medical information to the public or media about a medical issue

Collaborator

Key Competencies: *Physicians are able to…*

1. Participate effectively and appropriately in an interprofessional healthcare team
2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

Enabling Competencies: *Physicians are able to...*

1. Participate effectively and appropriately in an interprofessional healthcare team

1.1 Clearly describe their roles and responsibilities to other professionals
1.2 Describe the roles and responsibilities of other professionals within the health care team
1.3 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own
1.4 Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)
1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities
1.6 Participate effectively in interprofessional team meetings
1.7 Enter into interdependent relationships with other professions for the provision of quality care
1.8 Describe the principles of team dynamics
1.9 Respect team ethics, including confidentiality, resource allocation and professionalism
1.10 Where appropriate, demonstrate leadership in a healthcare team

2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

2.1 Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
2.2 Work with other professionals to prevent conflicts
2.3 Employ collaborative negotiation to resolve conflicts
2.4 Respect differences, misunderstandings and limitations in other professionals
2.5 Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension
2.6 Reflect on interprofessional team function

Manager

Key Competencies: *Physicians are able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Enabling Competencies: *Physicians are able to...*

1. **Participate in activities that contribute to the effectiveness of their healthcare organizations and systems**

   1.1 Work collaboratively with others in their organizations
   1.2 Participate in systemic quality process evaluation and improvement, such as patient safety initiatives
   1.3 Describe the structure and function of the healthcare system as it relates to their specialty, including the roles of physicians
   1.4 Describe principles of healthcare financing, including physician remuneration, budgeting and organizational funding

2. **Manage their practice and career effectively**

   2.1 Set priorities and manage time to balance ward and ambulatory patient care, practice requirements, outside activities and personal life
   2.2 Schedule their own and junior resident ambulatory clinic attendance
   2.3 Implement processes to ensure personal practice improvement
   2.4 Employ information technology appropriately for patient care

3. **Allocate finite healthcare resources appropriately**

   3.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care
   3.2 Apply evidence and management processes for cost-appropriate care

4. **Serve in administration and leadership roles, as appropriate**

   4.1 Chair or participate effectively in committees and meetings
   4.2 Lead or implement a change in health care
   4.3 Plan relevant elements of health care delivery (e.g., work schedules)

Health Advocate

Key Competencies: *Physicians are able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that they serve
3. Identify the determinants of health of the populations that they serve
4. Promote the health of individual patients, communities and populations

Enabling Competencies: *Physicians are able to...*

Respond to individual patient health needs and issues as part of patient care

   1.1 Identify the health needs of an individual patient
   1.2 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care (including obtaining appropriate social supports and Limited Use/Section 8 medications)

2. **Respond to the health needs of the communities that they serve**

   2.1 Describe the practice communities that they serve
   2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately
   2.3 Appreciate the possibility of competing interests between the communities served and other populations

3. **Identify the determinants of health for the populations that they serve**

   3.1 Identify the determinants of health of the populations, including barriers to access to care and resources
   3.2 Identify vulnerable or marginalized populations within those served and respond appropriately

4. **Promote the health of individual patients, communities, and populations**

4.1 Describe an approach to implementing a change in a determinant of health of the populations they serve
4.2 Describe how public policy impacts on the health of the populations served
4.3 Identify points of influence in the healthcare system and its structure
4.4 Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism
4.5 Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
4.5 Describe the role of the medical profession in advocating collectively for health and patient safety

Scholar

Key Competencies: *Physicians are able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

Enabling Competencies: *Physicians are able to...*

1. Maintain and enhance professional activities through ongoing learning

1.1 Describe the principles of maintenance of competence
1.2 Describe the principles and strategies for implementing a personal knowledge management system
1.3 Recognize and reflect learning issues in practice
1.4 Conduct a personal practice audit
1.5 Pose an appropriate learning question
1.6 Access and interpret the relevant evidence
1.7 Integrate new learning into practice
1.8 Evaluate the impact of any change in practice
1.9 Document the learning process

2. Critically evaluate medical information and its sources, and apply this appropriately to practice decisions

2.1 Describe the principles of critical appraisal
2.2 Critically appraise retrieved evidence in order to address a clinical question
2.3 Integrate critical appraisal conclusions into clinical care

3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate

3.1 Describe principles of learning relevant to medical education
3.2 Collaboratively identify the learning needs and desired learning outcomes of others
3.3 Select effective teaching strategies and content to facilitate others' learning
3.4 Demonstrate an effective lecture or presentation
3.5 Assess and reflect on a teaching encounter
3.6 Provide effective feedback
3.7 Describe the principles of ethics with respect to teaching

4. Contribute to the development, dissemination, and translation of new knowledge and practices

4.1 Describe the principles of research and scholarly inquiry
4.2 Describe the principles of research ethics
4.3 Pose a scholarly question
4.4 Conduct a systematic search for evidence
4.5 Select and apply appropriate methods to address the question
4.6 Appropriately disseminate the findings of a study

Professional

Key Competencies: *Physicians are able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

Enabling Competencies: *Physicians are able to...*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice

1.1 Exhibit appropriate professional behaviours in practice, including honesty, integrity, commitment, reliability, compassion, respect and altruism
1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence by acting promptly with respect to patient investigation, consultation and treatment; ensuring prompt completion of clinic letters and discharge summaries; providing thorough transfer information for physicians assuming on-call care of their patients; rounding on patients prior to morning report in order to effectively lead discussion; and arriving at rounds and meetings on time.
1.3 Recognize and appropriately respond to ethical issues encountered in practice
1.4 Appropriately manage conflicts of interest
1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law
1.6 Maintain appropriate relations with patients

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

2.1 Appreciate the professional, legal and ethical codes of practice
2.2 Fulfill the regulatory and legal obligations required of current practice
2.3 Demonstrate accountability to professional regulatory bodies
2.4 Recognize and respond to others' unprofessional behaviours in practice
2.5 Participate in peer review

3. Demonstrate a commitment to physician health and sustainable practice

3.1 Balance personal and professional priorities to ensure personal health and a sustainable practice
3.2 Strive to heighten personal and professional awareness and insight
3.3 Recognize other professionals in need and respond appropriately

IN-TRAINING EVALUATION REPORT FOR McMASTER UNIVERSITY MEDICAL CENTRE CLINICAL HEMATOLOGY ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	**Satisfactory**	***Provisional Satisfactory**	***Unsatisfactory**	***Incomplete**
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				
Rotation Supervisor Comments *Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.*				

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - CLINICAL						
a) Demonstrates a good understanding of basic scientific and clinical knowledge relevant to rotation (including development, structure, and function of the hemopoietic system; pathophysiology of alterations in morphology and quantity of formed elements in the blood; indications for and interpretation of common hematologic tests; principles underlying transfusion of blood and blood products; infectious complications in patients with hematologic diseases; characteristics; principles of investigation and treatment of leukemia; Non Hodgkin's lymphoma; allogeneic bone marrow transplantation; thrombotic thrombocytopenic purpura; immune thrombocytopenia; myeloproliferative disorders; anemia).						
b) History and physical examinations are complete, accurate, and well organized.						
c) Selects medically appropriate investigations in a resource effective and ethical manner and is able to interpret the results of these investigations.						
d) Demonstrates proficiency in formulation of differential diagnoses.						
e) Uses an evidence-based approach to decision making.						
f) Uses all pertinent clinical, laboratory, and radiologic information to arrive at complete and accurate clinical decisions.						
g) Demonstrates familiarity with and is able to plan and institute preventative and therapeutic interventions.						
h) Recognizes and manages emergency conditions (extremely ill patient) resulting in prompt and appropriate treatment. Remains calm in emergency situations, acts in a timely manner, and prioritizes correctly.						
i) Effectively performs a consultation, including well-documented assessments and recommendations.						
j) Seeks appropriate consultation from other health professionals.						
k) Provides credible assessments and opinions.						
l) Identifies and responds appropriately to ethical situations in patient care.						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – CLINICAL (CONTINUED)						
m) Demonstrates compassionate and patient-centered care.						
n) Organizes and attends Bone Marrow Transplant lectures.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - PROCEDURES						
a) Bone marrow biopsy and aspirate – is technically proficient, minimizes risks and patient discomfort, and ensures appropriate informed consent is obtained.						
b) Lumbar puncture (including administration of intrathecal chemotherapy) – is technically proficient, minimizes risks and patient discomfort, ensures appropriate informed consent is obtained.						
c) Care and use of central venous lines (including tunnelled catheters).						
d) Administration of chemotherapy.						
e) Attends Introductory Academic Half-Day session on bone marrow aspiration/biopsy and lumbar puncture.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL						
a) Is proficient in rotation-specific laboratory or technical procedures.						
b) Problem solving skills indicate an ability to resolve technical problems.						
c) Demonstrates appropriate knowledge of laboratory results and uses them appropriately in clinical decision making and/or for research purposes.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes a therapeutic relationship with patients and their caregivers. Demonstrates appropriate interviewing skills; communicates well and at an appropriate level with patients and families.						
b) Provides clear and thorough explanations of diagnosis, investigation and management to patients and their caregivers.						
c) Encourages full participation of the patient and their caregivers in decision-making and management.						
d) Demonstrates sensitivity to the emotional and personal needs of patients and families dealing with hematologic illnesses. Recognizes the importance of patient-centered care. Develops skills in breaking bad news to families.						
e) Demonstrates an understanding of and sensitivity to issues involving disabilities, gender, race and culture when communicating with patients and caregivers.						
f) Able to obtain informed consent.						
g) Prepares accurate, organized and timely written documentation (including patient notes, discharge summaries and patient letters).						
h) Effectively presents verbal reports of clinical encounters and plans in an accurate, complete and organized fashion.						
i) Takes a leadership role in discussions at morning report.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with health professionals by recognizing and acknowledging their roles and expertise.						
b) Consults and delegates effectively.						
c) Collaborates effectively and constructively with other members of the health care team.						
d) Participates effectively in morning report. Works with other members of the team to assess, plan, provide and integrate care for individual patients.						
e) Handles conflict situations well.						
f) Understands issues involving disabilities, gender, race and culture when working with other team members.						
g) Demonstrates flexible leadership skills.						
h) Effective collaborator as assessed by at least 2 allied health care professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases).						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an appreciation of cost-containment and quality assurance programs and applies this to patient care and laboratory management.						
d) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments.						
e) Organizes time so as to attend clinics on a regular basis (at least two half-days per week).						
f) At the beginning of the rotation, generates and submits to the Rotation Supervisor a schedule for hematology and internal medicine resident attendance at ambulatory clinics.						
g) Understands the principles of practice management.						
h) Coordinates the efforts of the healthcare team.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health.						
b) Recognizes and responds appropriately in advocacy situations.						
c) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care.						
d) Works with patients and caregivers to obtain needed services for care and on-going family support including social services and Limited Use/Section 8 medications.						
e) Identifies determinants of health affecting communities and understands the specialist's role to advocate for and to intervene on behalf of the community with respect to biologic, psychosocial, and economic factors that may affect health.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective, ongoing learning strategy.						
b) Demonstrates ongoing learning by quoting recent reading and/or literature on topics related to current patients.						
c) Understands the principles of life-long learning and helps others to learn by providing guidance and teaching, and by giving constructive feedback.						
d) Does self-directed learning prior to interactions with colleagues.						
e) Demonstrates an understanding of the importance of research to clinical medicine and has an understanding of the principles of clinical research.						
f) Demonstrates the skill of contributing to development of new knowledge by the performance of case reports, original scientific research, or participation in the performance of continuous quality improvement or quality assurance.						
g) Is able to critically appraise medical information. Successfully integrates information from a variety of sources.						
h) Takes initiative in stating own opinions regarding assessments and therapies. Takes into account all available knowledge.						
i) Appreciates when current or recommended treatments are no longer appropriate.						
j) Presentations in teaching sessions and/or rounds are well prepared, clear, concise, and make appropriate use of audiovisual aids.						
k) Meets core content knowledge for the rotation.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Demonstrates honesty and integrity (meets commitments, is forthright in clinical interactions, admits responsibility for errors).						
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory; is aware of personal, family, and cultural influences on patient well-being).						
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of patients and family members). - Gains the confidence of patients and their families. - Identifies patients' next-of-kin; where necessary, other important supports. - Communicates readily with patients and/or relatives.						
d) Demonstrates reliability, responsibility, and conscientiousness (is punctual, meets deadlines, fulfills commitments, monitors patients, provides follow-up). - Starts work early so as to effectively lead discussion at morning report. - Is on time for rounds. - Completes discharge summaries within 24 hours of discharge. - Acts promptly with respect to investigation, consultation, treatment. - Ensures completion of plans within a reasonable time frame. - Provides e-mail follow-up notes for those on call.						
e) Takes initiative to additional activities, within limits of knowledge and training.						
f) Demonstrates an understanding of the principles of ethics and applies these in clinical situations. Appreciates ethical dilemmas such as withdrawal of curative treatment, DNR, innovative therapies, disclosure, and consent.						
g) Demonstrates an awareness of own limitations and seeks advice when necessary. Accepts advice and feedback graciously.						
h) Fulfills the medical, legal and professional obligations of the specialty.						
Comments						

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

CLINICAL HEMATOLOGY ROTATION
Henderson General Hospital/Juravinski Cancer Centre

(UPDATED NOVEMBER 10, 2009)

I. OVERVIEW

General Description of the Rotation

The Clinical Hematology Residency Rotation at the Henderson Hospital is a three-month rotation designed for second year hematology residents. The purpose of this rotation is to provide an experience that will facilitate the resident's education in becoming a competent consultant in clinical hematology. It is designed to meet the objectives of the McMaster University Post-Graduate Education Committee and the Royal College of Physicians and Surgeons.

The Service of Hematology covers the areas of general hematology, malignant hematology and laboratory hematology. Patient care activities take place at both the Hamilton Health Sciences Corporation – Henderson Division and the Juavinski Cancer Centre. The Service is a multidisciplinary one comprised of six physicians, two highly specialized, Masters-prepared nurse practitioners and five primary care nurses in the Cancer Centre. In addition, there is a nurse clinician responsible for hematology-based clinical trials. Positions are available for Clinical Scholars and Research Fellows, emphasizing clinical research in malignant disorders. The Hematology Service is actively involved in both clinical and laboratory research programs. Areas of clinical research include management of patients with acute and chronic leukemia, Hodgkins and non-Hodgkins lymphoma, and multiple myeloma.

A comprehensive patient care service is provided both on an in-patient and outpatient basis. Ward F3 has been designated as the hematology ward and currently has an allotment of 21-23 beds for our in-patient service. Patients admitted to the ward have a wide spectrum of problems and require either diagnostic or therapeutic interventions that can not readily be accomplished as an outpatient. This includes patients scheduled to undergo high dose chemotherapy and autologous peripheral stem cell transplantation, of which 35-50 are performed per year. Outpatient activities occur both at the Hematology Day Care unit that is located next to Ward F3 and the Juravinski Cancer Centre, located next to the Henderson Hospital. Patients may attend the Hematology Day Care to receive blood product support, intravenous fluids, anti-microbial therapy, selected chemotherapeutic regimens and to undergo pheresis procedures, including plasmapheresis, leukopheresis and stem cell collection. Four outpatient beds are designated for these activities as well 8-10 chemotherapy chairs. New patient referrals, routine chemotherapy and follow up of hematology patients occurs in the Juravinski Cancer Centre.

Responsibilities of the Hematology Resident

The Clinical Hematology rotation is three months in duration and includes patient care activities in both an in-patient and out-patient setting, educational activities as well as an educational role of the resident, and exposure to research activities of the Service of Hematology.

Patient Care Activities:

In-patient activities are based on Ward F3. Hematology patients on the ward come from the combined practices of the attending physicians. The resident will function under the supervision of the attending physicians who assume responsibility for the in-patient unit on a rotational basis. A team that may consist of residents (medical oncology and radiation oncology residents in addition to the hematology resident) and nurse practitioners provides primary patient care. The hematology resident will be expected to be an active member of the team providing primary care to the in-patients, taking responsibility for the day-to-day care of a proportion of the in-patients commensurate with their level of training. This would typically be between 10 and 12 patients. In addition, it is expected that the hematology resident will be familiar with all patients on the ward and act as a resource for the other members of the team providing primary care to these patients. This care will include the development of skills in diagnosis, primary therapy, and supportive care including

dealing with the psychosocial aspects of these diseases that affect both the patient and their family. Although there will be an emphasis in exposure to patients with malignant hematological disorders, patients with more general hematological problems will also be seen. Depending upon the number of residents assigned to the service at any one time, the resident may not be responsible for the ongoing care of patients who are not located on ward F3. The ongoing care of such patients may remain the responsibility of the attending physician alone.

The resident will also provide a consultation service to other in-patient areas. These consultations will be completed under the supervision of the hematologist responsible for in-patient consultations. If the care of such a patient requires the ongoing input from the Hematology Service, the resident will determine whether a transfer to ward F3 would be appropriate, and if so, will play an ongoing role in that patient's care.

The outpatient experience of this rotation will include three half-day outpatient clinics per week with one designated hematologist. These clinics will involve both the assessment of newly referred patients, as well as the provision of care on an ongoing basis. The resident will be expected to attend the new patient clinic each week and two half-day follow up clinics with their designated hematologist. The resident will stay in the same follow up clinics for the full three month rotation in order to have the experience of providing continuity of care to out patients undergoing curative and palliative therapy for malignant hematological disorders. The resident will be encouraged to keep a journal to track the types of patient problems seen over the course of the rotation and to review this regularly so adjustments in assigned patients may occur during the rotation in an effort to maximize exposure to a variety of hematological disorders.

Educational Activities:

Educational activities, which are a priority for the hematology resident, include both scheduled rounds and other academic sessions. The resident is expected to attend the Hematology Residents' educational half-day on a weekly basis. The resident is expected to attend Regional Rounds including Regional Hematology Rounds, Regional Oncology Rounds, and Regional Leukemia, Lymphoma and Transplantation Group Meetings. The resident will be expected to present interesting patient problems at these rounds as well to do one formal presentation on a topic of their choice. In additional, a weekly formal one-hour tutorial session with the resident will be set up with members of the Service of Hematology. The resident's educational activities will also include the regular ward rounds with the attending staff. Morphology and hematopathology sessions may be arranged to complement the educational experience.

Research Activities:

The resident is expected to become knowledgeable of the ongoing research protocols that apply to patients with hematologic disorders. These protocols will include the primary and supportive therapy of patients with malignant hematologic disorders, including those where the principle investigators are from other clinical services. It will be expected that the resident will become familiar with and knowledgeable of the objectives and design of such studies, as well as the specifics of implementing these trials.

Research activities initiated by the resident will be encouraged and facilitated.

On-Call Duties

This clinical rotation includes an on-call experience. Residents are on-call (out-of-hospital), on average, one night per week and three weekends over the three-month period. Residents take first call for the Hematology Service. The on-call responsibilities on the weekend include making rounds on in-patients of the Hematology Service and acting as the first call for outpatients. The on-call experience may also include the management of problems of the hematology laboratories. The above on-call experience will be appropriately supervised by the attending staff on-call for both the Clinical and Laboratory Services.

Faculty

At this site, all members of faculty are involved in the education of the hematology resident. The staff hematologists, on a rotational basis, assume responsibility for in-patients and, as such, the hematology resident is likely to work on Ward F3 under the supervision of 3-6 of the clinical hematologists during the three-month rotation. They may see new patients with any/all of the clinical hematologists over the course of their rotation on

the in-patient service. In addition, each hematologist is likely to be on call with the resident at some point. In addition, residents are assigned to work with one designated hematologist in the clinic for the full three months. While each hematologist has a particular area of special interest, each of the practices is comprised of a full range of patients with hematologic disorders so the outpatient exposure is considered comparable in each clinical hematologist's longitudinal clinics. A separate hematologist is assigned to each resident as a "mentor". The mentor's responsibility is to ensure that the experience is going well and is covering all intended aspects of hematology. In this way, all six hematologists are expected to interact with, and contribute to the educational experience of, the hematology resident during this rotation. Each hematologist is asked to contribute to the evaluation of each hematology resident.

Site residency supervisor:

Dr. Deb Marcellus

Attending hematologists:

Dr. Ann Benger
Dr. Ronan Foley
Dr. Graeme Fraser
Dr. Tom Kouroukis
Dr. Michael Trus

Nurse practitioners:

Kari Kolm
Anita Adams

Resources

Cancer Centre Library
Henderson Hospital Library
Reference list with key articles in the area of malignant hematology

Resident Evaluation

An orientation session will take place either prior to or during the first week of the rotation to discuss the goals and description of this Residency Rotation with the resident. The specific objectives of the resident will be discussed and an attempt made to integrate these objectives into the overall objectives of the rotation.

Residents are provided with feedback during the rotation concerning their proficiency in managing clinical problems and their performance in informal and formal teaching sessions. Feedback for on-call duties is provided by the faculty member working with the resident, particularly when they share weekend on-call duties.

Feedback from allied health professionals is sought with written evaluation forms to be attached to the resident's final evaluation for the rotation. An evaluation tool is being used to assess the resident's skill in the collaborator role and this form will also become part of the final evaluation for the rotation.

As part of program-wide plans to implement rotation-specific examinations, there will be a written, clinically-based examination in the last one to two weeks of the rotation.

The resident meets with the rotation supervisor at the mid-point of the rotation to complete a Mid-Unit Evaluation, provide two-way feedback on the rotation, and discuss the resident's progress in meeting the goals of this rotation, the Residency Program, and the Royal College of Physicians and Surgeons of Canada. On completion of the rotation, a formal web-based CanMEDS compliant evaluation is completed by the rotation supervisor, with feedback from the other individuals, including all attending hematologists and members of the team who have worked with the resident, including nurse practioners, primary care nurses, ward staff nurses, and the social worker assigned to our clinical service. Final evaluations are discussed with the resident.

Evaluation of the Rotation

At the time of both the mid-term and final evaluation of the hematology resident, feedback regarding the rotation, including its strengths and shortcomings, is requested from the resident. If issues arise during the rotation, the resident is encouraged to bring these to the attention of the rotation supervisor. A mechanism for dealing with

any shortcomings will then be discussed with the resident and subsequently at the monthly meeting of the Service of Hematology. As with all hematology rotations, residents complete an anonymous web-based formal evaluation of the rotation. Separate from these evaluations, hematology residents meet every 1-2 years to compile a collective rotation evaluation. Teaching faculty are evaluated separately using one45, as for other rotations.

II. GOALS AND OBJECTIVES

Medical Expert

Definition: As *Medical Experts*, hematology residents are expected to integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centered haematological care. *Medical Expert* is the central physician Role in the CanMEDS framework.

Description: On this rotation, hematology residents will acquire a defined body of knowledge, clinical skills, procedural skills and professional attitudes, which are directed to effective patient-centered care, with an emphasis on the provision of care to patients with hematological malignancies. They will apply these competencies to collect and interpret information, make appropriate clinical decisions, and carry out diagnostic and therapeutic interventions. They will do so within the boundaries of their discipline, personal expertise, the healthcare setting and the patient's preferences and context, under the supervision of the attending hematologist. Care is to be characterized by up-to-date, ethical, and resource-efficient clinical practice, as well as with effective communication in partnership with patients, other health care providers and the community. The Role of Medical Expert is central to the function of residents and draws on the competencies included in the Roles of Communicator, Collaborator, Manager, Health Advocate, Scholar and Professional.

Key Competencies: *Hematology residents should be able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered hematological care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to the practice of hematology
3. Perform a complete and appropriate assessment of a patient
4. Use preventive and therapeutic interventions effectively
5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Enabling Competencies: *Hematology residents should be able to...*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care

1.1 Effectively perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional
1.2 Demonstrate effective use of all CanMEDS competencies relevant to the practice of hematology
1.3 Identify and appropriately respond to relevant ethical issues arising in patient care
1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems
1.5 Demonstrate compassionate and patient-centered care
1.6 Recognize and respond to the ethical dimensions in medical decision-making

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice

2.1 Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to hematology as outlined below.

Malignant Hematological Disorders

Acute Leukemia (Acute Myelogenous and Acute Lymphoblastic Leukemia)

The hematology resident must demonstrate in depth knowledge of:

a. Development, structure and function of the myeloid and lymphoid systems in adults

b. Pathophysiology of alterations in morphology and quantity of formed elements in the blood and bone marrow
c. Indications for, and interpretation of, routine and specialized laboratory investigations applicable to the care of adult patients with acute myeloid and lymphoid leukemia, including sound knowledge of relevant aspects of biochemistry, genetics, immunology, and pathology
d. Natural history, clinical and laboratory features, as well as prognostic differences between the subtypes of acute myeloid and lymphoid leukemia in adults
e. Principles of therapy used for the treatment of acute myeloid and lymphoid leukemia in adults as well as a detailed understanding of the short and long-term side effects of commonly used agents and regimens
f. Supportive care issues surrounding the care of such patients including tumour lysis precautions, venous access issues, transfusion support, recognition and treatment of infectious complications, management of gastrointestional side effects and nutritional support
g. Special issues related to treating patients with relapsed disease, elderly patients and those in whom palliation rather than cure is the goal of therapy

Chronic Myeloid Leukemia (CML)

The hematology resident must demonstrate in depth knowledge of:

a. Natural history, clinical and laboratory features, as well as prognostic indicators in CML in adults
b. Routine and specialized laboratory investigations used in the diagnosis of adult patients with CML, including sound knowledge of relevant aspects of biochemistry, genetics, immunology, and pathology
c. Principles of therapy used for the treatment of CML in adults
d. Role of stem cell transplantation in adult patients with CML
e. Special issues related to treating patients in the accelerated or blast phase of disease

Lymphoproliferative Disorders (Non-Hodgkins Lymphoma and Hodgkins Lymphoma)

The hematology resident must demonstrate in depth knowledge of:

a. Development, structure and function of the lymphoid systems in adults
b. Natural history, clinical and laboratory features, as well as prognostic differences between the subtypes of lymphoproliferative disorders in adults
c. Indications for, and interpretation of, routine and specialized investigations applicable to the care of adult patients with lymphoproliferative disorders, including sound knowledge of relevant aspects of biochemistry, genetics, immunology, pathology and radiology
d. Principles of therapy used for the treatment of lymphoproliferative disorders in adults as well as a detailed understanding of the short and long-term side effects of commonly used agents and regimens
e. Supportive care issues surrounding the care of such patients including tumour lysis precautions, venous access issues, transfusion support, recognition and treatment of infectious complications, management of gastrointestional side effects and nutritional support
f. Special issues related to treating patients with relapsed disease, elderly patients and those in whom palliation rather than cure is the goal of therapy

Plasma Cell Disorders (Multiple myeloma and related conditions)

The hematology resident must demonstrate in depth knowledge of:

a. Development, structure and function of plasma cells
b. Clinical and laboratory features used to establish a diagnosis of active multiple myeloma requiring therapy, smoldering myeloma, monoclonal gammopathy of undetermined significance as well as other conditions associated with a monoclonal gammopathy
c. Indications for, and interpretation of, routine and specialized investigations applicable in the care of adult patients with plasma cell disorders, including sound knowledge of relevant aspects of biochemistry, genetics, immunology, pathology and radiology
d. Principles of chemotherapy used for the treatment of plasma cell disorders as well as a detailed understanding of the short and long-term side effects of commonly used agents and regimens
e. Potential role for radiation therapy in the care of patients with plasma cell disorders

f. Supportive care issues surrounding the care of such patients including venous access issues, transfusion support, recognition and treatment of infectious complications, management of bone disease, pain management

Supportive care of the patient with malignant disease

The hematology resident must demonstrate in depth knowledge of:

a. Nature, natural history, appropriate investigation and management of infectious diseases that arise in the setting of neutropenia and immunocompromise.
b. Special issues relating to transfusion support in patients with profound or prolonged cytopenias and those with special needs due to immunocompromised states
c. Appropriate use of anti-emetics
d. Appropriate use of hematopoietic growth factors, including G-CSF and erythropoeitin
e. Approach to management of cancer related pain
f. Special needs that arise in the patient and/or family around coping with the diagnosis of cancer

Autologous Peripheral Stem Cell Transplantation (PSCT)

The hematology resident must demonstrate in depth knowledge of:

a. Development, structure and function of stem cells
b. Role of PSCT in the treatment of lymphoproliferative and plasma cell disorder
c. Strategies used for mobilization and the techniques of collection, storage and reinfusion of stem cells
d. Principles of high dose chemotherapy used for PSCT as well as a detailed understanding of the short and long-term side effects of commonly used agents and regimens
e. Potential role for radiation therapy in the care of patients after PSCT
f. Access issues, transfusion support, recognition and treatment of infectious complications, management of gastrointestional side effects and nutritional support
g. Approach to relapsed disease occurring after PSCT

Non-malignant Hematological Disorders

The hematology resident must demonstrate in depth knowledge of:

a. Appropriate investigation and management of patients with anemia, leucopenia and thrombocytopenia
b. Appropriate investigation and management of patients with polycythemia, leucocytosis and thrombocytosis
c. Appropriate investigation and management of patients with hematological disorders that arise in an acute care, general hospital including those occurring in the intensive care

Clinical trials

The hematology resident will have the opportunity to:

a. Learn about the objectives, design and interpretation of ongoing clinical trials.
b. Care for patients participating on clinical trials

2.2 Describe the RCPSC framework of competencies relevant to the physician's specialty
2.3 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence
2.4 Contribute to the enhancement of quality care and patient safety in their practice, integrating the available best evidence and best practices

3. Perform a complete and appropriate assessment of a patient

3.1 Effectively identify and explore issues to be addressed in a patient encounter, including the patient's context and preferences
3.2 For the purposes of prevention and health promotion, diagnosis and or management, elicit a history that is relevant, concise and accurate to context and preferences
3.3 For the purposes of prevention and health promotion, diagnosis and/or management, perform a focused physical examination that is relevant and accurate
3.4 Select medically appropriate investigative methods in a resource-effective and ethical manner
3.5 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans

4. Use preventive and therapeutic interventions effectively

4.1. Implement an effective management plan in collaboration with a patient and their family
4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the physician's practice
4.3 Ensure appropriate informed consent is obtained for therapies
4.4 Ensure patients receive appropriate end-of-life care

5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic

5.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures as indicated below:

a. Bone marrow aspirations and biopsies, demonstrating not only the technical skill but awareness of informed consent, patient comfort and knowledge of the appropriate special tests to request (i.e. cell markers, cytogenetics, molecular markers, cultures, reticulin stains, congo red staining, etc.)
b. Lumbar punctures, with and without administration of chemotherapy, demonstrating not only the technical skill but awareness of informed consent, patient comfort and knowledge of the appropriate special tests to request (ie cell markers, cytopathology, etc.)
c. If they have not already done so, residents are to review the instructional videos and pdf documents on bone marrow aspiration/biopsy and lumbar puncture found at the following links: http://content.nejm.org/cgi/content/short/361/15/e28; http://content.nejm.org/cgi/video_dl/355/13/e12, respectively. Residents must be supervised during their performance of bone marrow aspiration and biopsy, as well as diagnostic and therapeutic lumbar punctures, unless they have been certified to perform the procedure independently on their one45 procedure log.

5.2 Demonstrate effective, appropriate, and timely performance of therapeutic procedures as outlined below:

Administration of chemotherapy

The hematology resident must demonstrate in depth knowledge of:

a. Different classes of chemotherapy
b. Biologic response modifiers, such as interferon
c. Use of immunologic therapies, such as monoclonal antibodies
d. Technique of administering systemic and intrathecal (either through lumbar puncture or Omaya reservoir)
e. Toxicity profiles of agents used in the treatment of malignant disease

5.3 Ensure appropriate informed consent is obtained for procedures
5.4 Appropriately document and disseminate information related to procedures performed and their outcomes
5.5 Ensure adequate follow-up is arranged for procedures performed

6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

6.1 Demonstrate insight into their imitations of expertise via self-assessment
6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care
6.3 Arrange appropriate follow-up care services for a patient and their family

Communicator

Definition: As *Communicators*, hematology residents are expected to effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

Description: On this rotation, hematology residents should enable patient-centered therapeutic communication through shared decision-making and effective dynamic interactions with patients, families, caregivers, other professionals, and important other individuals. The competencies of this Role are essential for establishing

rapport and trust, formulating a diagnosis, delivering information, striving for mutual understanding, and facilitating a shared plan of care. Poor communication can lead to undesired outcomes, and effective communication is critical for optimal patient outcomes. The application of these communication competencies and the nature of the doctor-patient relationship vary for different specialties and forms of medical practice.

Key Competencies: *Hematology residents should be able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about a medical encounter

Enabling Competencies: *Hematology residents should be able to...*

1. Develop rapport, trust, and ethical therapeutic relationships with patients and families

1.1 Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes
1.2 Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy
1.3 Respect patient confidentiality, privacy and autonomy
1.4 Listen effectively
1.5 Be aware and responsive to nonverbal cues
1.6 Effectively facilitate a structured clinical encounter
1.7 Understand the psychological aspects of caring for patients with life-threatening and/or chronic disorders and develop skills in communicating around issues such as end of life, death and dying

2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals

2.1 Gather information about a disease, but also about a patient's beliefs, concerns, expectations and illness experience
2.2 Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals

3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals

3.1 Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making

4. Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care

4.1 Effectively identify and explore problems to be addressed from a patient encounter, including the patient's context, responses, concerns, and preferences
4.2 Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making
4.3 Encourage discussion, questions, and interaction in the encounter
4.4 Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care
4.5 Effectively address challenging communication issues such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding

5. Convey effective oral and written information about a medical encounter

5.1 Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans
5.2 Effectively present verbal reports of clinical encounters and plans

Collaborator

Definition: As *Collaborators*, physicians effectively work within a healthcare team to achieve optimal patient care.

Description: On this rotation, haematology residents will work in partnership with others who are appropriately involved in the care of individuals or specific groups of patients. This is increasingly important in a modern multiprofessional environment, where the goal of patient-centred care is widely shared. Modern healthcare teams not only include a group of professionals working closely together at one site, such as a ward team, but also extended teams with a variety of perspectives and skills, in multiple locations. It is therefore essential for physicians to be able to collaborate effectively with patients, families, and an interprofessional team of expert health professionals for the provision of optimal care, education and scholarship.

Key Competencies: *Hematology residents should be able to…*

1. Participate effectively and appropriately in an interprofessional healthcare team
2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

Enabling Competencies: *Hematology residents are able to...*

1. Participate effectively and appropriately in an interprofessional healthcare team

1.1 Clearly describe their roles and responsibilities to other professionals
1.2 Describe the roles and responsibilities of other professionals within the health care team
1.3 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own
   a. Establish a collegial relationship with the nurse practitioners such that education in both directions will be fostered
1.4 Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)
1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities
1.6 Participate effectively in interprofessional team meetings by contributing clinically useful hematological opinions on patients referred for consultation, including ordering and arranging for specific testing, administering required therapy, and conveying the results of the hematological opinion to referring physician.
1.7 Describe the principles of team dynamics
1.8 Respect team ethics, including confidentiality, resource allocation and professionalism
1.9 Where appropriate, demonstrate leadership in a healthcare team

2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

2.1 Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
2.2 Work with other professionals to prevent conflicts
2.3 Employ collaborative negotiation to resolve conflicts
2.4 Respect differences, misunderstandings and limitations in other professionals
2.5 Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension
2.6 Reflect on interprofessional team function

Manager

Definition: As *Managers*, physicians are integral participants in healthcare organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the healthcare system.

Description: On this rotation, hematology residents interact with their work environment as individuals, as members of teams or groups, and as participants in the health system locally, regionally or nationally. The balance in the emphasis among these three levels varies depending on the nature of the specialty, but all specialties have explicitly identified management responsibilities as a core requirement for the practice of medicine in their discipline. Physicians function as Managers in their everyday practice activities involving co-workers, resources and organizational tasks, such as care processes, and policies as well as balancing their personal lives. Thus, physicians require the ability to prioritize, effectively execute tasks collaboratively with colleagues, and make systematic choices when allocating scarce healthcare resources. The CanMEDS Manager Role describes the active engagement of all physicians as integral participants in decision-making in the operation of the healthcare system.

Key Competencies: *Hematology residents should be able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Enabling Competencies: *Hematology residents should be able to...*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems

1.1 Work collaboratively with others in their organizations
1.2 Participate in systemic quality process evaluation and improvement, such as patient safety initiatives
1.3 Describe the structure and function of the healthcare system as it relates to their specialty, including the roles of physicians
1.4 Describe principles of healthcare financing, including physician remuneration, budgeting and organizational funding

2. Manage their practice and career effectively

2.1 Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life
2.2 Implement processes to ensure personal practice improvement
2.3 Employ information technology appropriately for patient care

3. Allocate finite healthcare resources appropriately

3.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care
3.2 Apply evidence and management processes for cost-appropriate care

4. Serve in administration and leadership roles, as appropriate

4.1 Chair or participate effectively in committees and meetings
4.2 Lead or implement a change in health care
4.3 Plan relevant elements of health care delivery (e.g., work schedules)

Health Advocate

Definition: As *Health Advocates*, physicians responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

Description: On this rotation, hematology residents should recognize their duty and ability to improve the overall health of their patients and the society they serve. Doctors identify advocacy activities as important for the individual patient, for populations of patients and for communities. Individual patients need physicians to assist them in navigating the healthcare system and accessing the appropriate health resources in a timely manner. Communities and societies need physicians' special expertise to identify and collaboratively address broad health issues and the determinants of health. At this level, health advocacy involves efforts to change specific practices or policies on behalf of those served. Framed in this multi-level way, health advocacy is an essential and fundamental component of health promotion. Health advocacy is appropriately expressed both by individual and collective actions of physicians in influencing public health and policy.

Key Competencies: *Hematology residents should be able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that they serve
3. Identify the determinants of health of the populations that they serve
4. Promote the health of individual patients, communities and populations

Enabling Competencies: *Hematology residents should be able to...*

1. Respond to individual patient health needs and issues as part of patient care

1.1 Identify the identify the important determinants of health affecting individual patients
1.2 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care

2. Respond to the health needs of the communities that they serve

2.1 Describe the practice communities that they serve
2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately
2.3 Appreciate the possibility of competing interests between the communities served and other populations

3. Identify the determinants of health for the populations that they serve

4.1. Identify the determinants of health of the populations, including barriers to access to care and resources
4.2. Identify vulnerable or marginalized populations within those served and respond appropriately

5. Promote the health of individual patients, communities, and populations

5.1. Describe an approach to implementing a change in a determinant of health of the populations they serve
5.2. Describe how public policy impacts on the health of the populations served
5.3. Identify points of influence in the healthcare system and its structure
5.4. Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism
5.5. Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
5.6. Describe the role of the medical profession in advocating collectively for health and patient safety

Scholar

Definition: As *Scholars,* physicians demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.

Description: Hematology residents should engage in a lifelong pursuit of mastering their domain of expertise. As learners, they recognize the need to be continually learning and model this for others. Through their scholarly activities, they contribute to the creation, dissemination, application and translation of medical knowledge. As teachers, they facilitate the education of their students, patients, colleagues, and others.

Key Competencies: *Hematology residents should be able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

Enabling Competencies: *Hematology residents should be able to...*

1. Maintain and enhance professional activities through ongoing learning

1.1 Describe the principles of maintenance of competence
1.2 Describe the principles and strategies for implementing a personal knowledge management system
1.3 Recognize and reflect learning issues in practice
1.4 Conduct a personal practice audit
1.5 Pose an appropriate learning question
1.6 Access and interpret the relevant evidence
1.7 Integrate new learning into practice
1.8 Evaluate the impact of any change in practice
1.9 Document the learning process - develop, implement and monitor a personal continuing education strategy

2. Critically evaluate medical information and its sources, and apply this appropriately to practice decisions

2.1 Describe the principles of critical appraisal
2.2 Critically appraise retrieved evidence in order to address a clinical question
2.3 Integrate critical appraisal conclusions into clinical care

3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate

3.1 Describe principles of learning relevant to medical education
3.2 Collaboratively identify the learning needs and desired learning outcomes of others
3.3 Select effective teaching strategies and content to facilitate others' learning
3.4 Demonstrate an effective lecture or presentation
3.5 Assess and reflect on a teaching encounter
3.6 Provide effective feedback
3.7 Describe the principles of ethics with respect to teaching

4. Contribute to the development, dissemination, and translation of new knowledge and practices

4.1 Describe the principles of research and scholarly inquiry
4.2 Describe the principles of research ethics
4.3 Conduct a systematic search for evidence as it applies to patient care
4.4 Critically appraise sources of medical information
4.5 Develop the ability to apply the principles of quality assurance to clinical care
4.6 Provide one comprehensive presentation on a suitable topic of the resident's choice at Regional Lymphoma, Leukemia or Stem Cell Rounds

Professional

Definition: As *Professionals*, physicians are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

Description: On this rotation, haematology residents should continue to be aware that physicians have a unique societal role as professionals who are dedicated to the health and caring of others. Their work requires the mastery of a complex body of knowledge and skills, as well as the art of medicine. As such, the Professional Role is guided by codes of ethics and a commitment to clinical competence, the embracing of appropriate attitudes and behaviors, integrity, altruism, personal well-being, and to the promotion of the public good within their domain. These commitments form the basis of a social contract between a physician and society. Society,

in return, grants physicians the privilege of profession-led regulation with the understanding that they are accountable to those served.

Key Competencies: *Hematology residents should be able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

Enabling Competencies: *Hematology residents should be able to...*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice

1.1 Exhibit appropriate professional behaviours in practice, including honesty, integrity, commitment, compassion, respect and altruism
1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence
1.3 Recognize and appropriately respond to ethical issues encountered in practice
1.4 Appropriately manage conflicts of interest
1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law
1.6 Maintain appropriate relations with patients

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

2.1 Appreciate the professional, legal and ethical codes of practice
2.2 Fulfill the regulatory and legal obligations required of current practice
2.3 Demonstrate accountability to professional regulatory bodies
2.4 Recognize and respond to others' unprofessional behaviours in practice

3. Demonstrate a commitment to physician health and sustainable practice

3.1 Balance personal and professional priorities to ensure personal health and a sustainable practice
3.2 Strive to heighten personal and professional awareness and insight
3.3 Recognize other professionals in need and respond appropriately

IN-TRAINING EVALUATION REPORT FOR HENDERSON CLINICAL HEMATOLOGY ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	**Satisfactory**	***Provisional Satisfactory**	***Unsatisfactory**	***Incomplete**
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				
Rotation Supervisor Comments *Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.*				

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - CLINICAL						
a) Demonstrates a good understanding of basic scientific and clinical knowledge relevant to rotation. This includes malignant hematological disorders (acute leukemia, myeloproliferative disorders including CML, lymphoproliferative disorders including Hodgkin's and non-Hodgkin's lymphomas, plasma cell dyscrasias including myeloma and related conditions), supportive care of the patient with malignant disease, and autologous stem cell transplantation. It also includes demonstration of knowledge of non-malignant hematologic disorders as it applies to in-patient and out-patient consults for cytopenias, coagulation abnormalities, and transfusion medicine problems.						
b) History and physical examinations are complete, accurate, and well organized.						
c) Selects medically appropriate investigations in a resource effective and ethical manner and is able to interpret the results of these investigations.						
d) Demonstrates proficiency in formulation of differential diagnoses.						
e) Uses an evidence-based approach to decision making.						
f) Uses all pertinent clinical, laboratory, and radiologic information to arrive at complete and accurate clinical decisions.						
g) Demonstrates familiarity with and is able to plan and institute preventative and therapeutic interventions.						
h) Recognizes and manages emergency conditions (extremely ill patient) resulting in prompt and appropriate treatment. Remains calm in emergency situations, acts in a timely manner, and prioritizes correctly.						
i) Effectively performs a consultation, including well-documented assessments and recommendations.						
j) Seeks appropriate consultation from other health professionals.						
k) Provides credible assessments and opinions.						
l) Identifies and responds appropriately to ethical situations in patient care.						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – CLINICAL (CONTINUED)						
m) Demonstrates compassionate and patient-centred care.						
Comments						
MEDICAL EXPERT - PROCEDURES						
a) Bone marrow biopsy and aspirate – is technically proficient, minimizes risks and patient discomfort, ensures appropriate informed consent is obtained, and ensures that the appropriate testing for the diagnosis suspected is requested on the samples.						
b) Lumbar puncture (including administration of intrathecal chemotherapy) – is technically proficient, minimizes risks and patient discomfort, ensures appropriate informed consent is obtained, ensures that the appropriate testing for the diagnosis suspected is requested on the samples.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL						
a) Is proficient in rotation-specific laboratory or technical procedures.						
b) Problem solving skills indicate an ability to resolve technical problems.						
c) Demonstrates appropriate knowledge of laboratory results and uses them appropriately in clinical decision making and/or for research purposes.						
d) Makes an effort to review the blood films and marrow aspirates of patients under his/her care.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes a therapeutic relationship with patients and their caregivers. Demonstrates appropriate interviewing skills; communicates well and at an appropriate level with patients and families.						
b) Provides clear and thorough explanations of diagnosis, investigation and management to patients and their caregivers.						
c) Encourages full participation of the patient and their caregivers in decision-making and management.						
d) Demonstrates sensitivity to the emotional and personal needs of patients and families dealing with these illnesses. Recognizes the importance of patient-centered care. Develops skills in breaking bad news to families.						
e) Demonstrates an understanding of and sensitivity to issues involving disabilities, gender, race and culture when communicating with patients and caregivers.						
f) Able to obtain informed consent (for procedures, transfusions, chemotherapy and other treatments).						
g) Prepares accurate, legible, organized and timely written documentation (including patient notes, discharge summaries and patient letters).						
h) Effectively presents verbal reports of clinical encounters and plans in an accurate, complete and organized fashion.						
i) Takes a leadership role in discussions at ward rounds.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with health professionals by recognizing and acknowledging their roles and expertise.						
b) Consults and delegates effectively.						
c) Collaborates effectively and constructively with other members of the health care team.						
d) Participates effectively in ward rounds. Works with other members of the team to assess, plan, provide and integrate care for individual patients.						
e) Handles conflict situations well.						
f) Understands issues involving disabilities, gender, race and culture when working with other team members.						
g) Demonstrates flexible leadership skills.						
h) Effective collaborator as assessed by at least 2 allied health care professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases).						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an appreciation of cost-containment and quality assurance programs and applies this to patient care and laboratory management.						
d) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments.						
e) Organizes time so as to attend to both assigned in-patients and participate in assigned clinics on a regular basis.						
f) Understands the principles of practice management.						
g) Coordinates the efforts of the healthcare team.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health.						
b) Recognizes and responds appropriately in advocacy situations.						
c) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care.						
d) Works with patients and caregivers to obtain needed services for care and on-going family support including social services and Limited Use/Section 8 medications.						
e) Identifies determinants of health affecting communities and understands the specialist's role to advocate for and to intervene on behalf of the community with respect to biologic, psychosocial, and economic factors that may affect health.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective, ongoing learning strategy.						
b) Demonstrates ongoing learning by quoting recent reading and/or literature on topics related to current patients.						
c) Understands the principles of life-long learning and helps others to learn by providing guidance and teaching, and by giving constructive feedback.						
d) Does self-directed learning prior to interactions with colleagues.						
e) Demonstrates an understanding of the importance of research to clinical medicine and has an understanding of the principles of clinical research.						
f) Demonstrates the skill of contributing to development of new knowledge by the performance of case reports, original scientific research, or participation in the performance of continuous quality improvement or quality assurance.						
g) Is able to critically appraise medical information. Successfully integrates information from a variety of sources.						
h) Takes initiative in stating own opinions regarding assessments and therapies. Takes into account all available knowledge.						
i) Appreciates when current or recommended treatments are no longer appropriate.						
j) Presentations in teaching sessions and/or rounds are well prepared, clear, concise, and make appropriate use of audiovisual aids.						
k) Meets core content knowledge for the rotation.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Demonstrates honesty and integrity (meets commitments, is forthright in clinical interactions, admits responsibility for errors).						
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory; is aware of personal, family, and cultural influences on patient well-being).						
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of patients and family members). - Gains the confidence of patients and their families. - Identifies patients' next-of-kin; where necessary, other important supports. - Communicates readily with patients and/or relatives.						
d) Demonstrates reliability, responsibility, and conscientiousness (is punctual, meets deadlines, fulfills commitments, monitors patients, provides follow-up). - Starts work early so as to effectively lead discussion at ward rounds. - Is on time for rounds. - Demonstrates professional responsibility for assigned patients by ensuring each is seen and assessed daily. If unable to make assessment personally, arranges for coverage by another health care team member. - Completes admission history and physical note on admission. - Completes discharge summaries within 24 hours of discharge. - Acts promptly with respect to investigation, consultation, treatment. - Ensures completion of plans within a reasonable time frame. - Provides e-mail follow-up notes for those on call.						
e) Takes initiative to do additional activities, within limits of knowledge and training.						
f) Demonstrates an understanding of the principles of ethics and applies these in clinical situations. Appreciates ethical dilemmas such as withdrawal of curative treatment, DNR, innovative therapies, disclosure, and consent.						
g) Demonstrates an awareness of own limitations and seeks advice when necessary. Accepts advice and feedback graciously.						
h) Demonstrates an understanding of the time commitments of consultants to non-resident specific activities.						
i) Fulfills the medical, legal and professional obligations of the specialty.						

PROFESSIONAL (CONTINUED)

Comments

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

ELECTIVE ROTATION

(UPDATED JUNE 9, 2009)

I. OVERVIEW

This four month block is used for research exposure or to gain additional clinical experience. One month of the elective MUST be used for Research.

II. RESEARCH ELECTIVE

The goal of an elective in research is to provide residents with an interesting and challenging exposure to hematology-related research, with the intention of providing a positive experience (and mentorship) for those interested in a career in academic hematology. Residents are required to spend at least one month of their elective pursuing a basic or applied field of hematology research. Residents often pursue research related to questions they have formulated during their clinical training. Sometimes residents will undertake an elective in their field of future training (e.g. thromboembolism). Many of the elective experiences have led to publications and presentations at meetings. Our residents have been awarded John Crookston and ASH travel awards for their presentations.

Location of Rotation

The site and research supervisor are chosen by the resident in consultation with faculty and Program Director.

Responsibilities of the Resident

The resident is expected to undertake a basic or clinically-applied research project under the mentorship of a supervisor. This requires identifying a research question, reviewing and becoming familiar with the relevant literature, drafting a basic research protocol, performing the research and presenting seminars on the topic and results. These tasks are performed with the assistance of the research supervisor.

As part of the requirement for a satisfactory mark on this rotation, residents are required to (1) attend the Department of Medicine Resident Research Day in both their PGY4 and PGY5 years and (2) submit an abstract to the Department of Medicine Resident Research Day at least once during their two core years of training.

On-Call Duties

There are no call duties during the elective rotation.

Faculty

The resident is free to choose a mentor either from amongst the members of the Hematology Group or from outside the group (locally or distant), if appropriate. Elective plans must be approved by the Program Director.

Resources

The program does not provide specific funding for research. The high level of funding of our faculty has supported the research efforts of our trainees. No resident in recent memory who wished to undertake a research project has been limited by a lack of access to resources.

Evaluation of the Resident

Informal evaluations will take place during the course of the elective as the research project progresses. A formal evaluation session with the resident will take place at the mid-point of the rotation, as well as at the end of the rotation. Input is sought from all attending hematologists, as well as other members of the research team who have worked with the resident. Based on all the feedback received, a web-based CanMEDS compliant ITER is compiled by the supervisor at the end of the rotation. Final evaluations are discussed with the resident.

Rotation Evaluation

A final rotation evaluation is completed using a web-based system. Residents are encouraged to discuss the merits and weaknesses of the experience with their mentor. Teaching faculty are evaluated separately, in a similar manner as for other rotations.

GOALS AND OBJECTIVES

Medical Expert

Key Competencies: *Hematology residents on this rotation are able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centred research
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their ultimate research goals and expectations
3. Seek appropriate consultation from other health professionals and researchers, recognizing the limits of their expertise

Enabling Competencies: *Physicians are able to*…

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centred research.

1.1 Possess the ability to design a research study that can answer an important clinical question
1.2 Recognize and respond to the ethical dimensions in research
1.3 Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their ultimate research goals and expectations

2.1 Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to the physician's research interests
   a. Develop a research project, from formulation to execution that will expose the resident to relevant research techniques and new core content area
   b. Understand the utility of various methodologic designs and statistical tests that can be employed to answer a research question
   c. Demonstrate an understanding of the basics of data analysis, as it applies to his/her research question
   d. Possess the ability to put his/her research findings into the context of current clinical knowledge
2.2 Describe the RCPSC framework of competencies relevant to Hematology and Internal Medicine
2.3 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence

3. Seek appropriate consultation from other health professionals and researchers, recognizing the limits of their expertise

3.1 Demonstrate insight into his/her limitations of expertise via self-assessment
3.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for their research goals

Communicator

Key Competencies: *Hematology residents on this rotation are able to…*

1. Develop rapport, trust, and ethical therapeutic relationships with fellow researchers and, if applicable, research subjects
2. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to fellow researchers and the lay public
4. Develop a common understanding on issues, problems and plans with fellow researchers
5. Convey effective oral and written information about research

Enabling Competencies: *Hematology residents are able to…*

1. **Develop rapport, trust, and ethical therapeutic relationships with fellow researchers and, if applicable, research subjects**

   1.1 Recognize that being a good communicator is a core clinical skill for researchers and that effective communication can foster satisfaction, adherence and improved research and clinical outcomes
   1.2 Establish positive relationships with fellow researchers, research supervisor, and, if appropriate, research subjects; that are characterized by understanding, trust, respect, honesty and empathy
   1.3 Respect patient confidentiality, privacy and autonomy
   1.4 Listen effectively

2. **Accurately convey relevant information and explanations to patients and families, colleagues and other professionals**

   2.1 Gather information about beliefs, concerns, and expectations relevant to the conduct of the research project
   2.2 Seek out and synthesize relevant information from other sources

3. **Accurately convey relevant information and explanations to fellow researchers and the lay public**

   3.1 Deliver information to a patient and families, as well as colleagues and other professionals, in such a way that it is understandable and encourages discussion

4. **Develop a common understanding on issues, problems and plans with fellow researchers**

   4.1 Effectively identify and explore the research problem to be addressed
   4.2 Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making
   4.3 Encourage discussion, questions, and interaction
   4.4 Effectively address challenging communication issues such as obtaining informed consent, delivering scientific results, and denying access to research protocols by ineligible patients

5. **Convey effective oral and written information about research**

   5.1 Maintain clear, accurate, and appropriate records (e.g., written or electronic)
   5.2 Effectively present verbal reports describing research methodology and results
   5.3 Prepare a written report on a research project describing methodology and results
   5.4 When appropriate, effectively present medical information to the public or media about a medical or research issue

Collaborator

Key Competencies: *Hematology residents on this rotation are able to…*

1. Participate effectively and appropriately in an interprofessional team
2. Effectively work with other team members to prevent, negotiate, and resolve interprofessional conflict

Enabling Competencies: *Hematology residents are able to…*

1. **Participate effectively and appropriately in an interprofessional team**

   1.1 Clearly describe their roles and responsibilities to other professional
   1.2. Describe the roles and responsibilities of other professionals within the research team
   1.3 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own
   1.4 Work with others to assess, plan, provide and integrate research activities
   1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities
   1.6 Participate effectively in interprofessional team meetings
   1.7 Enter into interdependent relationships with other research professionals
   1.8 Describe the principles of team dynamics
   1.9 Respect team ethics, including confidentiality, resource allocation and professionalism
   1.10 Where appropriate, demonstrate leadership in a research team

2. **Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict**

    2.1. Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
    2.2 Work with other professionals to prevent conflicts
    2.3 Employ collaborative negotiation to resolve conflicts
    2.4 Respect differences, misunderstandings and limitations in other professionals
    2.5 Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension
    2.6 Reflect on interprofessional team function

Manager

Key Competency: *Hematology residents on this rotation are able to…*

1. Participate in activities that contribute to the effectiveness of their research organizations and system
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Enabling Competencies: *Hematology residents are able to…*

1. **Participate in activities that contribute to the effectiveness of their research organizations and systems**

    1.1 Work collaboratively with others in their organizations
    1.2 Participate in systemic quality process evaluation and improvement
    1.3 Describe the structure and function of the healthcare system as it relates to their specialty and research project, including the roles of physicians

2. **Manage their practice and career effectively**

    2.1 Set priorities and manage time to complete a research project, while balancing outside activities and personal life (e.g. demonstrate the ability to meet deadlines for grant applications, ethics approval applications, and completion of the research project in question)
    2.2 Manage a research organization including finances and human resources
    2.3 Implement processes to ensure personal practice improvement
    2.4 Employ information technology appropriately

3. **Allocate finite healthcare resources appropriately**

    3.1 Recognize the importance of just allocation of research resources
    3.2 Apply evidence and management processes for cost-appropriate research

4. **Serve in administration and leadership roles, as appropriate**

    4.1 Chair or participate effectively in committees and meetings
    4.2 Lead or implement a change in research
    4.3 Plan relevant elements of research (e.g. supply management, ethics submissions

Health Advocate

Key Competencies: *Hematology residents on this rotation are able to…*

1. Respond to the health needs of the communities that they serve
2. Identify the determinants of health for the populations that they serve
3. Promote the health of individual patients, communities, and populations

Enabling Competencies: *Hematology residents are able to…*

1. **Respond to the health needs of the communities that they serve**

    1.1 Describe the practice communities that they serve

1.2 Identify opportunities for advocacy, health promotion and disease prevention in the research population and respond appropriately
1.3 Appreciate the possibility of competing interests between the communities served and other populations

2. Identify the determinants of health for the populations that they serve

2.1 Identify the determinants of health of the populations, including barriers to access to care and resources
2.2 Identify vulnerable or marginalized populations within those served and respond appropriately

3. Promote the health of individual patients, communities, and populations

3.1 Describe an approach to implementing a change in a determinant of health of the populations they serve
3.2 Describe how public policy impacts on the health of the populations served
3.3 Identify points of influence in the healthcare system and its structure
3.4 Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism
3.5 Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
3.6 Describe the role of the medical profession in advocating collectively for health and patient safety
3.7 Understand the ways in which good research is important to patients with medical problems

Scholar

Key Competencies: *Hematology residents on this rotation are able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to research decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate
4. Contribute to the development, dissemination, and translation of new knowledge and practices

Enabling Competencies: *Hematologists are able to…*

1. Maintain and enhance professional activities through ongoing learning

1.1 Describe the principles of maintenance of competence
1.2 Describe the principles and strategies for implementing a personal knowledge management system
1.3 Recognize and reflect learning issues in practice and in research
1.4 Pose an appropriate research question
1.5 Access and interpret the relevant literature
1.6 Integrate new learning into research protocol/clinical practice
1.7 Evaluate the impact of any change in practice
1.8 Document the learning process

2. Critically evaluate information and its sources, and apply this appropriately to research decisions

2.1 Describe the principles of critical appraisal
2.2 Critically appraise retrieved evidence in order to address a research question
2.3 Integrate critical appraisal conclusions into research practice

3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate

3.1 Describe principles of learning relevant to medical education
3.2 Collaboratively identify the learning needs and desired learning outcomes of others
3.3 Select effective teaching strategies and content to facilitate others' learning
3.4 Demonstrate an effective lecture or presentation
3.5 Assess and reflect on a teaching encounter
3.6 Provide effective feedback

3.7 Describe the principles of ethics with respect to teaching

4. Contribute to the development, dissemination, and translation of new knowledge and practices

4.1 Describe the principles of research and scholarly inquiry
4.2 Describe the principles of research ethics
4.3 Pose a scholarly question
4.4 Conduct a systematic search for evidence
4.5 Select and apply appropriate methods to address the question
4.6 Appropriately disseminate the findings of a study

Professional

Key Competencies: *Hematology residents on this rotation are able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

Enabling Competencies: *Hematology residents are able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice

1.1 Exhibit appropriate professional behaviours in research and practice, including honesty, integrity, commitment, compassion, respect and altruism
1.2 Demonstrate a commitment to performing high quality research and to delivering the highest quality care and maintenance of competence
1.3 Recognize and appropriately respond to ethical issues encountered in research and in clinical practice
1.4 Appropriately manage conflicts of interest
1.5 Recognize the principles and limits of research subject and patient confidentiality as defined by professional practice standards and the law
1.6 Maintain appropriate relations with collaborators, research subjects and patients. Monitor research subjects appropriately.

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

2.1 Appreciate the professional, legal and ethical codes of practice
2.2 Fulfil the regulatory and legal obligations required of current practice
2.3 Demonstrate accountability to professional regulatory bodies and to research colleagues
2.4 Recognize and respond to others' unprofessional behaviours in practice and in research
2.5 Participate in peer review

3. Demonstrate a commitment to physician health and sustainable practice

3.1 Balance personal and professional priorities to ensure personal health and a sustainable practice
3.2 Strive to heighten personal and professional awareness and insight
3.3 Recognize other professionals in need and respond appropriately

III. CLINICAL ELECTIVE (INCLUDING COMMUNITY-BASED ELECTIVES)

The goal of an elective in clinical hematology is to provide residents with the opportunity to gain additional clinical training in a specialized area of hematology (e.g. bone marrow transplantation) or in community-based hematology.

Location of Rotation

The site and supervisor are chosen by the resident in consultation with faculty and Program Director. A number of residents seeking clinical experience at another academic centre have undertaken electives through the University of Toronto (contact Dr. Christine Chen, Program Director). Nearby community hematologists who may be willing to supervise clinical electives include Dr. Sydney Gee (Burlington), Dr. Lisa Christjiaanson (Burlington), Dr. Janet MacEachern (Kitchener), Dr. Bonnie McCarron (Kitchener), Dr. Robert Stevens (Kutchener), and Dr. John McPhaden (Oakville).

Responsibilities of the Resident

The resident is expected to participate in an out-patient or mixed out-patient/in-patient clinical experience. A research focus is encouraged as a fundamental component of this type of elective. The resident's research can take the form of a continuous quality improvement project, chart review, or systematic review. As part of the requirement for a satisfactory mark on this rotation, residents are required to (1) attend the Department of Medicine Resident Research Day in both their PGY4 and PGY5 years and (2) submit an abstract to the Department of Medicine Resident Research Day at least once during their two core years of training.

On-Call Duties

There are no specified call duties during the elective rotation, although the resident may elect to participate in the on-call schedule to obtain greater clinical experience.

Faculty

The resident is free to choose a mentor either from amongst the members of the Hematology Group or from outside the group (locally or distant), if appropriate. Elective plans must be approved by the Program Director.

Resources

The program does not provide specific funding for community-based electives. Funding may be available through the Ontario government. It is the resident's responsibility to explore this option.

Evaluation of the Resident

An evaluation session with the resident will take place at the mid-point in the rotation, as well as at the end of the rotation. This will include a discussion of the resident's progress in meeting the goals of this rotation, the Residency Program, and the Royal College of Physicians and Surgeons. Input is sought from all attending hematologists, as well as members of the team who have worked with the resident, including nurse practitioners, nurses, ward staff nurses, social workers and other affiliated health professionals. A formal web-based CanMEDS compliant ITER is compiled by the supervisor at the end of the rotation. Additional informal evaluations will take place during the course of the elective as the elective proceeds.

Rotation Evaluation

Residents are encouraged to discuss the merits and weaknesses of the experience with their mentor. As with all hematology rotations, a formal final rotation evaluation is completed using a web-based system. Teaching faculty are handled separately, in a similar manner as for other rotations.

GOALS AND OBJECTIVES

Medical Expert

Key Competencies: *Hematology residents on this rotation are required to be able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to haematology
3. Perform a complete and appropriate assessment of a patient
4. Use preventive and therapeutic interventions effectively
5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Enabling Competencies: *Hematology residents are able to...*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care

1.1 Effectively perform consultations and follow-up evaluations, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional
1.2 Demonstrate effective use of all CanMEDS competencies relevant to Hematology
1.3 Identify and appropriately respond to relevant ethical issues arising in patient care
1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems
1.5 Demonstrate compassionate and patient-centered care
1.6 Recognize and respond to the ethical dimensions in medical decision-making
1.7 Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to the clinical setting

2.1 Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Hematology including the appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of “standard medical treatments”
2.2 Describe the RCPSC framework of competencies relevant to Hematology and Internal Medicine
2.3 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence
2.4 Contribute to the enhancement of quality care and patient safety in their practice, integrating the available best evidence and best practices

3. Perform a complete and appropriate assessment of a patient

3.1 Assess new patients and manage follow-up patients in a timely manner
3.2Effectively identify and explore issues to be addressed in a patient encounter, including the patient’s context and preferences
3.3 For the purposes of prevention and health promotion, diagnosis and or management, elicit a history that is relevant, concise and accurate to context and preferences
3.4 For the purposes of prevention and health promotion, diagnosis and/or management, perform a focused physical examination that is relevant and accurate
3.5 Select medically appropriate investigative methods in a resource-effective and ethical manner
3.6 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans

4. Use preventive and therapeutic interventions effectively

4.1 Implement an effective management plan in collaboration with a patient and their family
4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the physician’s practice

4.3 Ensure appropriate informed consent is obtained for therapies
4.4 Ensure patients receive appropriate end-of-life care

5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic

5.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to the practice of hematology in the elective setting (e.g. bone marrow aspirate/biopsy and lumbar puncture)
5.2 Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to the practice of hematology in the elective setting (e.g. phlebotomy, blood product transfusion, pheresis, administration and supervision of chemotherapy)
5.3 Ensure appropriate informed consent is obtained for procedures
5.4 Appropriately document and disseminate information related to procedures performed and their outcomes
5.5 Ensure adequate follow-up is arranged for procedures performed

6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

6.1 Demonstrate insight into his/her limitations of expertise via self-assessment
6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care
6.3 Arrange appropriate follow-up care services for a patient and their family

Communicator

Key Competencies: *Hematology resident on this rotation are able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about a medical encounter

Enabling Competencies: *Hematology residents are able to...*

1. Develop rapport, trust, and ethical therapeutic relationships with patients and families

1.1 Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes
1.2 Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy
1.3 Respect patient confidentiality, privacy and autonomy
1.4 Listen effectively
1.5 Be aware and responsive to nonverbal cues
1.6 Effectively facilitate a structured clinical encounter

2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals

2.1 Gather information about a disease, but also about a patient's beliefs, concerns, expectations and illness experience
2.2 Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals

3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals

3.1 Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making

4. Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care

4.1 Effectively identify and explore problems to be addressed from a patient encounter, including the patient's context, responses, concerns, and preferences
4.2 Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making
4.3 Encourage discussion, questions, and interaction in the encounter
4.4 Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care
4.5 Effectively address challenging communication issues such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding

5. Convey effective oral and written information about a medical encounter

5.1 Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans
5.2 Effectively present verbal reports of clinical encounters and plans

Collaborator

Key Competencies: *Hematology residents are able to…*

1. Participate effectively and appropriately in an interprofessional healthcare team
2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

Enabling Competencies: *Hematology residents are able to...*

1. Participate effectively and appropriately in an interprofessional healthcare team

1.1 Clearly describe their roles and responsibilities to other professionals
1.2 Describe the roles and responsibilities of other professionals within the health care team
1.3 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own
1.4 Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)
1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities
1.6 Participate effectively in interprofessional team meetings
1.7 Enter into interdependent relationships with other professions for the provision of quality care
1.8 Describe the principles of team dynamics
1.9 Respect team ethics, including confidentiality, resource allocation and professionalism
1.10 Where appropriate, demonstrate leadership in a healthcare team

2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

2.1 Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
2.2 Work with other professionals to prevent conflicts
2.3 Employ collaborative negotiation to resolve conflicts
2.4 Respect differences, misunderstandings and limitations in other professionals
2.5 Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension
2.6 Reflect on interprofessional team function

Manager

Key Competencies: *Hematology residents are able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Enabling Competencies: *Hematology residents are able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems

1.1 Work collaboratively with others in their organizations
1.2 Participate in systemic quality process evaluation and improvement, such as patient safety initiatives
1.3 Describe the structure and function of the healthcare system as it relates to their specialty, including the roles of physicians
1.4 Demonstrate knowledge of the different roles and responsibilities of physicians, nurses, clerical staff and other allied health professionals in the clinical elective setting
1.5 Describe principles of healthcare financing, including physician remuneration, budgeting and organizational funding

2. Manage their practice and career effectively

2.1 Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life
2.2 Provide effective and compassionate patient care in a time-restricted environment
2.3 Implement processes to ensure personal practice improvement
2.4 Employ information technology appropriately for patient care

3. Allocate finite healthcare resources appropriately

3.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care
3.2 Apply evidence and management processes for cost-appropriate care

4. Serve in administration and leadership roles, as appropriate

4.1 Chair or participate effectively in committees and meetings
4.2 Lead or implement a change in health care
4.3 Plan relevant elements of health care delivery (e.g., work schedules)

Health Advocate

Key Competencies: *Hematology residents are able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that they serve
3. Identify the determinants of health of the populations that they serve
4. Promote the health of individual patients, communities and populations

Enabling Competencies: *Hematology residents are able to...*

1. Respond to individual patient health needs and issues as part of patient care

1.1 Demonstrate an appreciation of the health care needs of patients with hematologic disorders
1.2 Identify the social, economic and biologic factors that may impact on an individual patient's health
1.3 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care (e.g. by preparation of treatment documents for patients, by obtaining special access medications, by arranging appropriate vaccinations or other prophylactic interventions)

2. Respond to the health needs of the communities that they serve

2.1 Describe the practice communities that they serve
2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately
2.3 Appreciate the possibility of competing interests between the communities served and other populations

3. Identify the determinants of health for the populations that they serve

3.1 Identify the determinants of health of the populations, including barriers to access to care and resources
3.2 Identify vulnerable or marginalized populations within those served and respond appropriately

4. Promote the health of individual patients, communities, and populations

4.1 Describe an approach to implementing a change in a determinant of health of the populations they serve
4.2 Describe how public policy impacts on the health of the populations served
4.3 Identify points of influence in the healthcare system and its structure
4.4 Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism
4.5 Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
4.5 Describe the role of the medical profession in advocating collectively for health and patient safety

Scholar

Key Competencies: *Hematology residents are able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

Enabling Competencies: *Hematology residents are able to...*

1. Maintain and enhance professional activities through ongoing learning

1.1 Describe the principles of maintenance of competence
1.2 Describe the principles and strategies for implementing a personal knowledge management system
1.3 Recognize and reflect learning issues in practice
1.4 Pose an appropriate learning question
1.5 Access and interpret the relevant evidence
1.6 Integrate new learning into practice
1.7 Evaluate the impact of any change in practice
1.8 Document the learning process

2. Critically evaluate medical information and its sources, and apply this appropriately to practice decisions

2.1 Describe the principles of critical appraisal
2.2 Critically appraise retrieved evidence in order to address a clinical question
2.3 Integrate critical appraisal conclusions into clinical care

3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate

3.1 Describe principles of learning relevant to medical education
3.2 Collaboratively identify the learning needs and desired learning outcomes of others
3.3 Select effective teaching strategies and content to facilitate others' learning
3.5 Assess and reflect on a teaching encounter
3.6 Provide effective feedback

3.7 Describe the principles of ethics with respect to teaching

4. Contribute to the development, dissemination, and translation of new knowledge and practices

4.1 Describe the principles of research and scholarly inquiry
4.2 Describe the principles of research ethics
4.3 Pose a scholarly question
4.4 Contributes to the development of new knowledge by the performance of case reports, by chart review, by performance of continuous quality improvement or by original scientific research
4.5 Appropriately disseminate the findings of research

Professional

Key Competencies: *Hematology residents are able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

Enabling Competencies: *Hematology residents are able to...*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice

1.1 Exhibit appropriate professional behaviours in practice, including honesty, integrity, commitment, punctuality, compassion, respect and altruism
1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence by acting promptly with respect to patient investigation, consultation and treatment; ensuring prompt completion of clinic letters, consultations, and notes; and providing transfer information for physicians assuming care of their patients
1.3 Recognize and appropriately respond to ethical issues encountered in practice
1.4 Appropriately manage conflicts of interest
1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law
1.6 Maintain appropriate relations with patients

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

2.1 Appreciate the professional, legal and ethical codes of practice
2.2 Fulfill the regulatory and legal obligations required of current practice
2.3 Demonstrate accountability to professional regulatory bodies
2.4 Recognize and respond to others' unprofessional behaviours in practice
2.5 Participate in peer review

3. Demonstrate a commitment to physician health and sustainable practice

3.1 Balance personal and professional priorities to ensure personal health and a sustainable practice
3.2 Strive to heighten personal and professional awareness and insight
3.3 Recognize other professionals in need and respond appropriately

McMaster University Health Sciences

Adult Hematology Residency Program

IN-TRAINING EVALUATION REPORT FOR RESEARCH ELECTIVE ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	Satisfactory	*Provisional Satisfactory	*Unsatisfactory	*Incomplete
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				

Rotation Supervisor Comments

Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT						
a) Demonstrates a good understanding of basic scientific and clinical knowledge relevant to the research project.						
b) Understands the principles of research methodology and statistical analysis appropriate to the research project.						
c) Demonstrates an understanding of the process of developing a research project, from formulation to execution.						
d) Seeks appropriate advice from other members of the research team.						
e) Identifies and responds appropriately to ethical situations arising in research.						
f) Is proficient in project-specific laboratory or technical procedures.						
g) Problem solving skills indicate an ability to resolve problems that arise while conducting research.						
h) Demonstrates appropriate knowledge of laboratory results and uses them appropriately in for research purposes.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes rapport, trust and ethical relationships with collaborators and, if applicable, research subjects.						
b) Provides clear and thorough explanations of the research protocol and plan to other members of the team, research subjects, and members of the lay public.						
c) Able to obtain informed consent.						
d) Prepares accurate, organized and timely written records of research.						
e) Communicates the results of the research project at meetings or to the public and/or prepares a written report of the project describing methodology and results.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with research supervisor, research assistants, and statisticians by recognizing and acknowledging their roles and expertise.						
b) Is able to participate effectively in interprofessional team meetings.						
c) Collaborates effectively and constructively with other members of the research team.						
d) Handles conflict situations well.						
e) Understands issues involving disabilities, gender, race and culture when working with other team members.						
f) Effective collaborator as assessed by at least 2 allied health care professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for conducting research.						
b) Demonstrates an appreciation of quality assurance as it applies to their research project.						
c) Sets realistic priorities and uses time effectively in order to complete a research project. Balances professional and personal commitments.						
d) Plans relevant elements of a research project (e.g. ethics submission, supply management).						
e) Understands the principles of collaborative research.						
f) Demonstrates the abilities needed to be an efficient and respected leader of a research team.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Demonstrates empathy and care for the patient who is participating in research by clearly explaining the research project and performing research in a manner that is comfortable for the patient and does not put the patient at risk for harm.						
b) Recognizes and responds appropriately in advocacy situations.						
c) Demonstrates and promotes active involvement of the patient in the process of informed consent.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective and ongoing personal learning strategy.						
b) Understands the principles of life-long learning and helps others to learn by providing guidance and teaching, and by giving constructive feedback.						
c) Does self-directed learning prior to interactions with colleagues.						
d) Demonstrates an understanding of the importance of research to the practice of clinical medicine and has an understanding of the principles of clinical research or laboratory research, as appropriate to their elective.						
e) Is able to pose an appropriate research question.						
f) Is able to describe the principles of critical appraisal and critically appraise medical information to address a research question. Successfully integrates information from a variety of sources.						
g) Is able to pose an appropriate research question.						
h) Is able to access and interpret the relevant literature.						
i) Is able to select and apply appropriate methods to address their research question.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Demonstrates honesty and integrity (meets commitments, is forthright in interactions with collaborators and research subjects, admits responsibility for errors).						
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory).						
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of collaborators and research subjects).						
d) Demonstrates reliability, responsibility, and conscientiousness (meets deadlines, is punctual, fulfills commitments).						
e) Takes initiative to additional activities, within limits of knowledge and training.						
f) Demonstrates an understanding of the principles of ethics and applies these in clinical situations. Recognizes the principles of research subject rights and confidentiality. Understands to role of Research Ethics Boards. Manages conflicts of interest.						
g) Demonstrates an awareness of own limitations and seeks advice when necessary. Accepts advice and feedback graciously.						
h) Maintains appropriate relations with collaborators and research subjects.						
i) Demonstrates an understanding of peer review and participates in the process.						
j) Demonstrates a commitment to performing high quality research.						
k) Fulfills the medical, legal and professional obligations of the specialty.						
Comments						

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

IN-TRAINING EVALUATION REPORT FOR CLINICAL ELECTIVE ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	Satisfactory	*Provisional Satisfactory	*Unsatisfactory	*Incomplete
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				
Rotation Supervisor Comments *Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.*				

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - CLINICAL						
a) Demonstrates a good understanding of basic scientific and clinical knowledge relevant to elective experience.						
b) History and physical examinations are complete, accurate, and well organized.						
c) Selects medically appropriate investigations in a resource effective and ethical manner and is able to interpret the results of these investigations.						
d) Demonstrates proficiency in formulation of differential diagnoses.						
e) Uses an evidence-based approach to decision making.						
f) Uses all pertinent clinical, laboratory, and radiologic information to arrive at complete and accurate clinical decisions.						
g) Demonstrates appropriate knowledge of laboratory results and uses them appropriately in clinical decision making.						
h) Demonstrates familiarity with and is able to plan and institute preventative and therapeutic interventions.						
i) Recognizes and manages emergency conditions (extremely ill patient) resulting in prompt and appropriate treatment. Remains calm in emergency situations, acts in a timely manner, and prioritizes correctly.						
j) Effectively performs a consultation and follow-up visit, including well-documented assessments and recommendations.						
k) Seeks appropriate consultation from other health professionals.						
l) Identifies and responds appropriately to ethical situations arising in patient care.						
m) Demonstrates compassionate and patient-centered care.						

MEDICAL EXPERT – CLINICAL (CONTINUED)

Comments

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - PROCEDURES						
f) Bone marrow biopsy and aspirate – is technically proficient, minimizes risks and patient discomfort, and ensures appropriate informed consent is obtained.						
g) Lumbar puncture (including administration of intrathecal chemotherapy) – is technically proficient, minimizes risks and patient discomfort, ensures appropriate informed consent is obtained.						
h) Administration of chemotherapy – the resident must demonstrate knowledge of the different classes of chemotherapy, techniques of administering chemotherapy, and toxicity profiles of agents used in the treatment of hematologic malignancies.						

Comments

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes a therapeutic relationship with patients and their caregivers. Demonstrates appropriate interviewing skills; communicates well and at an appropriate level with patients and families.						
b) Provides clear and thorough explanations of diagnosis, investigation and management to patients and their caregivers.						
c) Encourages full participation of the patient and their caregivers in decision-making and management.						
d) Demonstrates sensitivity to the emotional and personal needs of patients and families dealing with these illnesses. Recognizes the importance of patient-centered care. Develops skills in breaking bad news to families.						
e) Demonstrates an understanding of and sensitivity to issues involving disabilities, gender, race and culture when communicating with patients and caregivers.						
f) Able to obtain informed consent.						
g) Prepares accurate, organized, informative, and timely written documentation (including patient notes, discharge summaries and patient letters).						
h) Effectively presents verbal reports of clinical encounters and plans in an accurate, complete and organized fashion.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with health professionals by recognizing and acknowledging their roles and expertise.						
b) Consults and delegates effectively.						
c) Collaborates effectively and constructively with other members of the health care team. Takes on an appropriate share of the workload.						
d) Handles conflict situations well.						
e) Understands issues involving disabilities, gender, race and culture when working with other team members.						
f) Demonstrates flexible leadership skills. Facilitates involvement of team members.						
g) Effective collaborator as assessed by at least 2 allied health care professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases).						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an appreciation of cost-containment and quality assurance programs and applies this to patient care and laboratory management.						
d) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments.						
e) Provides effective patient care in a time-restricted environment.						
f) Understands the principles of practice management.						
g) Coordinates the efforts of the healthcare team.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health.						
b) Recognizes and responds appropriately in advocacy situations (e.g. vaccinations, prophylactic antibiotics or anticoagulants, treatment documents for patients, special access drugs).						
c) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care.						
d) Works with patients and caregivers to obtain needed services for care and on-going family support.						
e) Identifies determinants of health affecting communities and understands the specialist's role to advocate for and to intervene on behalf of the community with respect to biologic, psychosocial, and economic factors that may affect health.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective and ongoing personal learning strategy.						
b) Recognizes learning issues and is able to pose an appropriate learning question.						
c) Understands the principles of life-long learning and helps others to learn by providing guidance and teaching, and by giving constructive feedback.						
d) Does self-directed learning prior to interactions with colleagues.						
e) Demonstrates an understanding of the importance of research to the practice of clinical medicine and has an understanding of the principles of clinical research.						
f) Demonstrates the skill of contributing to the development of new knowledge by the performance of case reports, original scientific research, or participation in the performance of continuous quality improvement or quality assurance.						
g) Is able to critically appraise medical information. Successfully integrates information from a variety of sources.						
h) Presentations in teaching sessions and/or rounds are well prepared, clear, concise, and make appropriate use of audiovisual aids.						
i) Meets core content knowledge for the rotation.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Demonstrates honesty and integrity (meets commitments, is forthright in interactions with patients, caregivers, and colleague, admits responsibility for errors).						
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory; is aware of personal, family, and cultural influences on patient well-being).						
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of patients and family members).						
d) Demonstrates reliability, responsibility, and conscientiousness (meets deadlines, is punctual, fulfills commitments, monitors patients, provides follow-up).						
e) Takes initiative to additional activities, within limits of knowledge and training.						
f) Demonstrates an understanding of the principles of ethics and applies these in clinical situations. Appreciates ethical dilemmas such as withdrawal of curative treatment, DNR, innovative therapies, disclosure, and consent.						
g) Demonstrates an awareness of own limitations and seeks advice when necessary. Accepts advice and feedback graciously.						
h) Fulfills the medical, legal and professional obligations of the specialty.						
Comments						

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

HEMOSTASIS/COAGULATION ROTATION
McMaster University Medical Centre

(UPDATED JUNE 22, 2009)

I. OVERVIEW

This is a laboratory-based rotation focused on the basic science, clinical and laboratory aspects of hemostasis. The rotation is based at the McMaster University Medical Centre (MUMC) – the site of the Regional Coagulation Laboratory of the Hamilton Laboratory Medicine Program (HRLMP), the Regional Hemophilia Centre and platelet disorder clinics.

During this rotation, the resident learns the theory and laboratory principles of hemostasis and thrombosis. The rotation is divided into weekly modules. One day per week is spent reviewing the principle, methodology, and interpretation of laboratory techniques. Two days per week are reserved for self-directed learning. Residents have access to extensive topic-oriented reference files (maintained in the residents' room at MUMC) that contain key articles and references, organized according to the topics of the weekly modules. These references focus on both the basic science and clinical aspects of coagulation. Formal teaching sessions are scheduled weekly, at which time the residents present 1 hour long seminars reviewing the topics covered in that week's module. These sessions are interactive and are conducted with the Head of the Regional Hemostasis Laboratory, and laboratory staff, with additional sessions with local experts on selected topics. The residents also participate in less formal teaching sessions on how to interpret clinical test results and other relevant issues (e.g. procedures, investigations or management of patients with selected disorders). The rotation is complemented by three half-day outpatient clinics focused on platelet and hemostatic disorders. The resident attends a half day hemophilia clinic and two, half-day platelet disorder clinics. During their rotation, the resident performs consultations on inpatient hemostatic disorders and may be requested to participate in the inpatient care of patients (e.g. patients with bleeding disorders undergoing surgery or needing inpatient care for thrombotic thrombocytopenic purpura or severe immune thrombocytopenia). Separate from the weekly seminars, informal teaching sessions occur related to principles of laboratory tests, patient care (difficult diagnostic cases and consults, on-call experiences), and interpretation of test results.

During the rotation, the resident learns the basic science of coagulation and platelet disorders, has extensive exposure to laboratory testing, interpretation of results and is also provided with the opportunity to assess and follow patients with bleeding disorders. Clinical thromboembolism teaching is covered as a separate rotation.

Responsibilities of the Resident

A major responsibility of the resident on this rotation is to acquire medical expert knowledge and theory pertaining to coagulation and hemostasis. The rotation is geared primarily to learning the principles of laboratory testing, supplemented by clinical exposure to hemostasis consults, predominantly in outpatient clinics. The resident is responsible for urgent in-patient coagulation consults as they arise and is encouraged to function as a consultant to the medical and surgical services in these exposures. Trainees are expected to review test results for reporting on a daily basis. After the first one to two weeks of orientation, residents are expected to draft appropriate comments for these reports and arrange timely review with the supervisor to expedite release of results from the laboratory. Trainees are expected to work collaboratively with laboratory and clinical staff, including the allied health professionals on the clinic, ward and laboratory services. With guidance, they are expected to facilitate and interpret specialized testing for coagulation consults. Acquisition of general hematology knowledge on the rotation is a secondary goal and is furthered by on-call coverage of general adult hematology and by the exposure to some general hematology referrals in the outpatient clinics. Teaching of other residents, interns and medical students is accomplished mainly through their consultation exposure (residents are encouraged to provide the other services with recent references and informal teaching), and all trainees are expected to present an inservice session on a topic of their choice in coagulation to allied health professionals (either to the clinic or laboratory staff). The resident has educational responsibilities for their hematology academic half-day teaching sessions.

On-Call Duties

The hemostasis resident participates in the same on-call duties covered by adult hematologists at MUMC. Residents do an average of one-in-four, out-of-hospital call that covers all adult hematology, including hemostasis, nonmalignant and malignant hematology, and bone marrow transplantation. A faculty member is assigned to back-up the resident when the resident is on-call. The on-call duties provide the residents with important experiences in dealing with urgent and nonurgent adult clinical hematology problems.

Faculty

Supervisors:

Dr. Kathryn Webert – Rotation Supervisor. Supervises resident activities in clinics and around consults; chairs formal and informal teaching sessions.

Karen Moffat – Assistant Rotation Supervisor. Technical Specialist, Regional Coagulation Laboratory, HRLMP. Leads teaching sessions for residents on the principles of laboratory tests and attends formal teaching sessions with the residents.

Dr. Catherine Hayward - Regional Coagulation Laboratory, HRLMP. Supervises resident activities in clinics and around consults; chairs formal and informal teaching sessions, including interactive sessions on the interpretation of diagnostic tests.

Dr. John Kelton and Dr. Donald Arnold – Supervise resident activities in the outpatient clinics and for consults and in-patients (apheresis, platelet disorders, etc); hold informal teaching sessions with the residents on topics pertaining to nonimmune and immune thrombocytopenias.

Dr. Irwin Walker, Dr. Kathryn Webert, Dr. Anthony Chan and Dr. Mohan Pai – Supervise resident activities in the Hemophilia Clinic and related consults (e.g. perioperative in-patient care of patients from the Hemophilia Clinic); hold formal and informal teaching sessions with residents on topics that include hemophilia and von Willebrand disease and treatment of factor deficiencies.

Dr. Mark Crowther or Dr. Wendy Lim - Chairs a formal teaching session (residents present) for the week covering common acquired coagulation disorders.

Dr. Patricia Liaw – Chairs a formal teaching session (residents present) for the week covering fibrinolysis.

Dr. Shannon Bates – Chairs a formal session (residents present) on thrombophilia testing in clinical practice for the week covering thrombophilias.

Other technologists (e.g. Lesley Black and Teresa Papaioannou) in the Regional Coagulation Laboratory also teach principles of coagulation testing and current practices to residents.

Other Supervisors (on-call duties; urgent adult; pediatric hemostasis consults):

Pediatric hemostasis consults are reviewed with the pediatric haematologist on service

Adult hematologists on service for the MUMC site supervise residents on-call and may also supervise residents that do urgent consults in hemostasis.

Additional faculty involved in teaching:

Trainees must schedule a session with the following individuals:

Dr. Donald Arnold (along with James Smith and/or Jane Moore, Coordinators) – 2 (or more) sessions on molecular and glycoprotein testing for alloimmune and autoimmune platelet disorders, inherited platelet glycoprotein deficiencies, thrombotic thrombocytopenic purpura and heparin-induced thrombocytopenia (Platelet Immunology Laboratory; x 22414)

Optional sessions:

Dr. Theodore Warkentin - Covers heparin induced thrombocytopenia during academic half day; does informal teaching sessions upon request with residents on selected topics (x 46139)

Dr. Fred Ofosu - Optional teaching session on the biochemistry of coagulation (x 22535)

Dr. William Sheffield - Optional teaching session on biochemistry of coagulation and anti-thrombins (x 22701)

Resources

1. The residents typically see a minimum of 4-5 new consults weekly, predominantly in the outpatient clinics and they have the opportunity to see a number of follow-ups. Outpatient facilities include clinic facilities for platelet disorders and the Regional Hemophilia Program.
2. Inpatient care is generally restricted (0-3 patients/week; can include perioperative care), as most patients with hemostasis problems are predominantly seen and managed in outpatient clinics. The inpatient facility that provides on-call experiences is the Blood Disorders Unit, 3Z.
3. The McMaster laboratory is the regional specialized coagulation laboratory for Hamilton and it is among the largest reference laboratories for coagulation testing in North America. A broad range of testing is performed on site, ranging from anticoagulant monitoring, acquired coagulation disorder investigations (liver disease, DIC, etc.), prothrombotic work-ups (Protein C, S, AT, APC resistance, dysfibrinogenemias, HCII assays, plasminogen determinations, lupus anticoagulant testing, molecular testing for factor V Leiden and prothrombin gene mutation 20210), dysfibrinogenemias, hemophilia testing (factor assays, inhibitor testing), investigation of von Willebrand disease, factor XIII assays, platelet testing (aggregation and secretion studies, procoagulant assays, testing for platelet antibodies and for heparin-induced thrombocytopenia, EM studies for dense granule deficiency). The resident is exposed to most coagulation and thrombotic laboratory abnormalities during the rotation. Examples of laboratory test results in rarer disorders are also reviewed during the rotation to ensure a broad based knowledge of test results and their interpretation. Exposure to faculty involved in coagulation and platelet research provides the resident with exposure to a broader range of coagulation than is encountered in the clinics. Residents are encouraged to become involved in a research project during their rotation. Quality assurance issues are dealt with in teaching sessions and have often formed the nidus for research projects. Residents learn roles of the laboratory section heads and are encouraged to participate in new procedural evaluations when they rotate through coagulation.
4. Residents have access to files and a computer with internet connections in their Residents' Room at MUMC.

Rotation Schedule

A list of the weekly topics and the rotation daily schedule are included on the next two pages.

Week	TOPICS	LABORATORY TESTS
1	General Coagulation Overview Initiation and Propagation of Coagulation Anticoagulant Drug Therapy	Prothrombin time, Activated partial thromboplastin time, APTT (1:1) mix, Thrombin clotting time, Protamine neutralized thrombin clotting time, other methods to neutralize heparin in samples. Tests for anticoagulant monitoring, including anti-Xa activity levels for monitoring heparin
2	Coagulation Clotting Factors Inherited Deficiency	Factor Assays (PT and APTT based); Incubation studies for prekallikrein deficiency; Factor XIII assessments; Fibrinogen assays – clottable, immunologic; Dysfibrinogenemia evaluations, including Reptilase and TCT without $CaCl_2$
3	Fibrinolytic System	Plasminogen, $\alpha_2$plasmin inhibitor, Euglobulin lysis time, D-Dimer, Fibrin monomer, FDP, Whole blood clot lysis tests
4	Acquired Coagulation Disorders (Liver Disease, Vitamin K Deficiency, Hemodilution, Disseminated Intravascular Coagulation)	Changes in coagulation factor levels and tests in acquired disorders; Use of Factor II Biologic and Echis assays to assess vitamin K deficiency; interpretation of tests with consideration of different factor levels in pediatric and adult subjects
5	Platelets and Platelet Disorders	Bleeding time, PFA-100 Closure Time, Platelet aggregation and secretion tests, E.M. Tests for platelets, including Dense granule deficiency, Platelet glycoprotein analyses, Testing for heparin-induced thrombocytopenia and platelet antibodies. ISTH and CLSI guidelines on testing (PFA-100, aspirin resistance, aggregation).
6	Congenital and acquired Hemophilia A and B; clinical features, genetics, diagnostic evaluation and therapeutic monitoring	Factor VIII:C and Factor VIII:C inhibitor assays (human and porcine); Carrier detection; Genetic testing for flipped tip mutation and other defects in severe hemophilia; Factor IX and Factor IX inhibitor assays
7	Congenital and acquired von Willebrand Disease; clinical features, genetics, diagnostic evaluation and therapeutic monitoring	von Willebrand factor assays: antigen, ristocetin cofactor activity, collagen binding, von Willebrand multimers, Ristocetin-induced platelet aggregation
8	Thrombophilia – causes, diagnostic evaluation, including functional, antigen and genetic tests.	Tests for deficiencies and dysfunctions of: antithrombin, protein C, protein S, activated protein C resistance, heparin cofactor II, prothrombin gene mutation; Tests for lupus anticoagulants – including ISTH criterion and recommendations on testing with different assays; ELISA for anticardiolipin and anti beta-2-glycoprotein 1

COAGULATION RESIDENT DAILY SCHEDULE

Monday	AM	Clinic with Dr. Hayward and Dr. Webert
	PM	Clinic with Dr. Kelton and Dr. Arnold
Tuesday	0900 - 1000	*Tutorial Session (most Resident Presentations slotted for this time)
	PM	Laboratory Test Teaching Sessions
Wednesday	AM	Hemophilia Clinic (3F)
	PM	
Thursday	AM	Longitudinal clinic
	PM	Coagulation case reviews (after lab practical session on topic; approximately 3 sessions per rotation)
Friday	AM	Educational Half-Day Teaching Session Hematology Grand Rounds every other week
	PM	

Daily: reporting of abnormal test findings
Once per rotation: Resident presents an in-service to nursing or laboratory staff

*See objectives for more details on the scheduling of different teaching sessions.

Resident Evaluation

Residents are provided with weekly informal feedback concerning their presentation in the formal teaching sessions, their proficiency in interpreting laboratory test results, and skill in managing clinical problems. Feedback for on-call duties is provided by the faculty member working with the resident, particularly when they share weekend on call duties. Resident dictations are formally evaluated (see Structured Assessment of Resident Dictation Form).

The resident meets with the rotation supervisor at the mid-point of the rotation to complete a Mid-Unit Evaluation, provide two-way feedback on the rotation, and discuss the goals for the remainder of the rotation. On completion of the rotation, a formal web-based CanMEDS compliant evaluation is completed by the rotation supervisor, with feedback from the other individuals, including allied health professionals (using a Multisource Feedback Form). Final evaluations are discussed with the resident.

Evaluation of the Rotation

Residents are encouraged to provide feedback on how the rotation and teaching are structured. Resident input has been enthusiastically received. Residents have consistently played a major role in updating and improving the rotation reference library. As with all hematology rotations, an anonymous formal evaluation of the rotation is handled by a web-based system. Teaching faculty are evaluated separately in a similar manner, as for other rotations. Separate from these evaluations, hematology residents meet every 1-2 years to compile a collective rotation and faculty evaluation, respecting anonymity. This has been important to maintaining feedback with the size of our program.

II. GOALS AND OBJECTIVES

The following sections outline the rotation expectations in domains of medical expert (primary focus of the rotation) and in the domains of communicator, collaborator, manager, health advocate, scholar and professional.

Medical Expert

Key Competencies: *Physicians are able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-related medical care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice
3. Perform a complete and appropriate assessment of a patient
4. Use preventive and therapeutic interventions effectively
5. Demonstrate proficient and appropriate technical interpretative skills, in both diagnostic and therapeutic settings
6. Demonstrate proficient and appropriate procedural skills, required for evaluation of hematologic disorders (e.g. bone marrow evaluations).
7. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Specific Requirements:

1. The hematology resident must demonstrate in-depth knowledge in the following general areas:
   a. Hemostasis, coagulation and fibrinolysis in adulthood, infancy, childhood and adolescence, including changes in normal values with age
   b. Structure and function of factors and cells involved in hemostasis and thrombosis
   c. Pathophysiology of inherited and acquired alterations in coagulation and fibrinolytic proteins (including von Willebrand factor, and regulatory proteins such as antithrombin, protein S, protein C) and platelets; and the coagulation tests used to monitor therapy, including treatment with anticoagulants
   d. Genetics of coagulation disorders, including thrombophilia
   e. Interpretation of coagulation laboratory tests
   f. Products and drugs available for the treatment of coagulation and platelet disorders
2. The resident must demonstrate the ability to assess and investigate patients with known or suspected congenital and acquired bleeding and prothrombotic disorders, and with general haematological problems. They must demonstrate:
   a. The ability to establish a professional relationship and to interact with patients
   b. The ability to obtain relevant history, including a detailed assessment of bleeding problems of different types and severity
   c. The ability to perform an efficient physical examination, demonstrating sensitivity to the patient's needs
3. Understand the biomedical ethics involved in the investigation and care of patients with hematological disorders, including the appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of "standard medical treatments"
4. The resident must demonstrate the ability to perform the following technical skills:
   a. An ability to properly order, use and interpret tests of hemostasis and coagulation
   b. Bone marrow aspiration and lumbar punctures, if performed during the rotation

5. The resident must demonstrate the ability to treat congenital and acquired platelet and coagulation disorders (including conditions with inhibitors) and their complications (e.g. iron deficiency, arthropathy, treatment complications such as hepatitis ABC, HIV), with appropriate consideration of optimal drug/product dosing (for minor/major bleeds, surgical or dental procedures, etc), routes of administration, side effects and need for monitoring (laboratory tests, self-monitoring by diary records)

Communicator

Key Competencies: *Physicians are able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about a medical encounter

Specific Requirements:

1. The resident must be able to:
   a. Communicate effectively with laboratory staff to discuss and initiate appropriate investigations, and timely reporting of interpreted results
   b. Communicate effectively with clinical staff and discuss appropriate information with patients and families and all members of the interdisciplinary health care team
   c. Establish effective relationships with patients, family members and other caregivers in order to obtain a meaningful history, conduct a relevant physical examination, and to properly manage a patient's medical problem
   d. Understand the psychosocial aspects of caring for patients with acute, chronic and life threatening disorders, and the impact of illness on their families

Collaborator

Key Competencies: *Physicians are able to…*

1. Participate effectively and appropriately in an interprofessional healthcare team
2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

Specific Requirements:

1. The hematology resident should be able to:
   a. Contribute clinically useful hematological opinions on patients referred for consultation, including ordering and arranging for specific testing, administering required therapy, and conveying the results of the hematological opinion to referring physicians
   b. Consult and collaborate with physicians, laboratory staff, clinic staff, and other health care professionals; and contribute effectively to interdisciplinary team activities within and between hospitals, other health care facilities and collaborative groups

Manager

Key Competencies: *Physicians are able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Specific Requirements

1. The hematology resident should be able to:

a. Demonstrate knowledge of the definitions and role of audits, quality improvement, risk management and incident reporting in a hospital and ambulatory setting, particularly as applied to hemostasis/coagulation testing
b. Demonstrate understanding of cost/benefit ratios of diagnostic and therapeutic interventions, cost containment and efficacy as they relate to quality assurance, particularly as they apply to hemostasis/coagulation
c. Demonstrate familiarity with the following: the processes of laboratory accreditation and licensing; how physicians manage the implementation and conduct of proper laboratory procedures; review examples of ISO-compliant laboratory procedures in coagulation; principles of quality assurance and quality control practices; responsibilities of hematologists to report and communicate abnormal results
d. Demonstrate good time management by daily preparation of draft interpretative comments on coagulation laboratory reports, timely dictation of out and in-patient clinical care notes, and sign-over reports related to on-call duties
e. Demonstrate knowledge of the different roles and responsibilities of patients, physicians, nurses, clinics and laboratories in the management of coagulation disorders

Health Advocate

Key Competencies: *Physicians are able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that they serve
3. Identify the determinants of health of the populations that they serve
4. Promote the health of individual patients, communities and populations

Specific Requirements:

1. The hematology resident should be able to:
   a. Demonstrate an appreciation of the health care needs of patients with hematological disorders, particularly those that cause bleeding or thrombosis
   b. Encourage the promotion of active family involvement in decision-making and continuing management
   c. Understand the ways effective laboratory support is important to patients with medical problems
   d. Demonstrate health advocacy by preparing documents for patients (hemophilia treatment cards; letters for patients with platelet disorders) that describe and outline the nature of the patient's bleeding problem and the recommended treatments. Demonstrate an ability to effectively communicate this information to the patient

Scholar

Key Competencies: *Physicians are able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

Specific Requirements:

1. The hematology resident should:
   a. Provide evidence in the material that they present during weekly seminar and teaching sessions and use in management of clinical cases, to illustrate that they are acquiring an appropriate level of in-depth knowledge pertaining to blood coagulation and hemostasis to function as a consultant, with skills in evidence-based medicine
   b. Develop critical appraisal skills specific to the hematological literature, particularly as it applies to the physiology and pathophysiology of blood coagulation and hemostasis, including diseases where randomized trials may not have been performed

c. Identify to rotation faculty, articles from the recently published literature that are appropriate for inclusion in the coagulation rotation binders and curriculum
d. Conduct an in-service session during the rotation, geared to allied health professionals (nursing staff or laboratory) on a topic of their choice in coagulation

Professional

Key Competencies: *Physicians are able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

Specific Requirements:

1. The hematology resident should:
   a. Deliver highest quality care with integrity honesty and compassion
   b. Exhibit appropriate personal and interpersonal professional behaviour
   c. Practice medicine ethically consistent with obligations of a physician
   d. Be courteous and punctual
   e. Follow-up on patients evaluated
   f. Arrange additional laboratory in investigations, as appropriate for patient problems

IN-TRAINING EVALUATION REPORT FOR HEMOSTASIS/COAGULATION ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	Satisfactory	*Provisional Satisfactory	*Unsatisfactory	*Incomplete
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				

Rotation Supervisor Comments

Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – CLINICAL AND PROCEDURAL						
a) Ability to establish a professional relationship and to interact with patients						
b) Ability to obtain relevant history, including a detailed assessment of bleeding problems of different types and severity						
c) Ability to perform an efficient physical examination, demonstrating sensitivity to the patient's needs						
d) Ability to perform bone marrow aspiration / biopsy and lumbar puncture (if performed during rotation)						
e) Ability to properly order, use and interpret tests of hemostasis and coagulation						
f) Ability to treat congenital and acquired platelet and coagulation disorders (including conditions with inhibitors) and their complications with appropriate consideration of optimal drug/product dosing, routes of administration, side effects and need for monitoring						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL						
a) Knowledge of hemostasis, coagulation and fibrinolysis in adulthood, infancy, childhood and adolescence, including changes in normal values with age						
b) Knowledge of the structure and function of coagulation factors						
c) Knowledge of the structure and function of coagulation inhibitors						
d) Knowledge of the physiology of inherited and acquired coagulation factor defects						
e) Knowledge of the pathophysiology of inherited and acquired abnormalities in fibrinolysis						
f) Knowledge of the pathophysiology of acquired coagulation abnormalities						
g) Knowledge of the pathophysiology of inherited and acquired platelet disorders						
h) Knowledge of the pathophysiology of inherited and acquired hemophilia						
i) Knowledge of the pathophysiology of inherited and acquired von Willebrand disease						
j) Knowledge of the pathophysiology of inherited and acquired thrombophilia						
k) Knowledge of the genetics of hemophilia						
l) Knowledge of the genetics of von Willebrand disease						
m) Knowledge of the genetics of thrombophilia						
n) Knowledge of the coagulation tests used to monitor therapy, including treatment with anticoagulants						
o) Knowledge of the interpretation of coagulation laboratory tests						
p) Knowledge of products and drugs available for the treatment of coagulation factor deficiencies						
q) Knowledge of products and drugs available for the treatment of von Willebrand disease						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with astericks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL (CONTINUED)						
r) Knowledge of the products and drugs available for the treatment of disorders of the fibrinolytic system						
s) Knowledge of the products and drugs available for the treatment of platelet disorders						
t) Knowledge of the products and drugs available for the treatment of thrombosis						
Comments:						

COMMUNICATOR						
a) Ability to communicate effectively with laboratory staff to discuss and initiate appropriate investigations, and ensure timely reporting of interpreted results						
b) Ability to communicate effectively with clinical staff and discuss appropriate information with patients and families and all members of the interdisciplinary health care team						
c) Ability to establish effective relationships with patients, family members and other caregivers in order to obtain a meaningful history, conduct a relevant physical examination, and to properly manage a patient's medical problem						
d) Ability to understand the psychosocial aspects of caring for patients with acute, chronic and life threatening disorders, and the impact of illness on their families						
e) Ability to prepare a complete, informative, and coherent clinic note (consultation and follow-up)						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Ability to contribute clinically useful hematological opinions on patients referred for consultation and convey the results of the hematological opinion to referring physicians						
b) Ability to consult and collaborate with physicians, laboratory staff, clinic staff, and other health care professionals; and contribute effectively to interdisciplinary team activities within and between hospitals, other health care facilities and collaborative groups						
c) Effective collaborator as assessed by at least 2 allied health care professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with the resident.*						
Comments:						
MANAGER						
a) Demonstrates knowledge of the definitions and role of audits, quality improvement, risk management and incident reporting in a hospital and ambulatory setting, particularly as applied to hemostasis/coagulation testing						
b) Demonstrates an understanding of cost/benefit ratios of diagnostic and therapeutic interventions, cost containment and efficacy as they relate to quality assurance, particularly as they apply to hemostasis/coagulation						
c) Demonstrates familiarity with the following: - Processes of laboratory accreditation and licensing - How physicians manage the implementation and conduct of proper laboratory procedures - ISO-compliant laboratory procedures in coagulation - Principles of quality assurance and quality control practices - Responsibilities of hematologists to report and communicate abnormal results						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER (CONTINUED)						
d) Demonstrates good time management skills, including the following: - Daily preparation of draft interpretative comments on coagulation laboratory reports - Timely dictation of patient clinical care notes (in-patient and out-patient) - Timely sign-over reports related to on-call duties - Contacting faculty to arrange for teaching sessions						
e) Demonstrates knowledge of the different roles and responsibilities of patients, physicians, nurses, clinics, and laboratories in the management of coagulation disorders						
Comments						
HEALTH ADVOCATE						
a) Demonstrates an appreciation of the health care needs of patients with hematological disorders.						
b) Encourages the promotion of active family involvement in decision-making and continuing management						
c) Understands the ways in which effective laboratory support is important to patients with medical problems						
d) Demonstrates health advocacy by preparing documents for patients						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates that they are acquiring an appropriate level of in-depth knowledge of blood coagulation and hemostasis to function as a consultant, with skills in evidence-based medicine						
b) Demonstrates critical appraisal skills specific to the hematological literature, particularly as it applies to the physiology and pathophysiology of blood coagulation and hemostasis						
c) Identifies articles from the recently published literature that are appropriate for inclusion in the coagulation rotation binders and curriculum						
d) Conducts an in-service, geared to allied health professionals (nursing or laboratory staff) on a coagulation topic of their choice						
Comments						
PROFESSIONAL						
a) Delivers high quality care with integrity honesty and compassion						
b) Exhibits appropriate personal and interpersonal professional behaviour						
c) Practices medicine ethically consistent with obligations of a physician						
d) Is courteous and punctual						
e) Follows-up on patients evaluated						
f) Arranges for additional appropriate investigations for patient problems						
Comments						

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

HEMATOLOGY JUNIOR ATTENDING ROTATION
St. Joseph's Healthcare

(UPDATED JUNE 25, 2009)

I. OVERVIEW

General Description of Rotation

The Hematology Junior Attending Rotation at St. Joseph's Hospital is intended for first year Hematology Residents (Postgraduate Year [PGY] 4). It is designed to meet the objectives of the McMaster University Post-Graduate Education Committee and the Royal College of Physicians and Surgeons and to provide an experience that will facilitate the resident's education in becoming a competent consultant in Clinical Hematology. This one month rotation will include both inpatient and outpatient Hematology exposure. The goals of this experience are to develop consultancy and time management skills required to practice Clinical Hematology, as well as to allow the Hematology Resident experience in supervision and education of junior residents and medical students.

The Hematology office is located in the Luke Wing, 2nd floor, Room L208 (located above the emergency department). The Hematology office secretary is Erin Milne, who can be reached at 905-521-6024. The resident should go to the Hematology office on the first day of the rotation, if other instructions have not been provided.

Nature of the Patients on this Rotation

The patients seen on this rotation will have primarily benign and low-grade malignant hematologic disorders, including cytopenias, bleeding disorders, thromboembolic disease, myeloproliferative disorders, monoclonal gammopathies/multiple myeloma and disorders of iron metabolism. Occasionally, patients with acute leukemias and lymphomas may be seen in consultation through the Emergency Department or the Internal Medicine service, and residents will have experience in establishing the diagnosis and transferring their ongoing care to McMaster University Medical Centre or the Henderson Hospital/Juravinski Cancer Center.

- Inpatient hematology: Inpatient exposure will be almost entirely consultative hematology on the medical and surgical inpatient wards at St. Joseph's Hospital.
- Outpatient hematology: Residents will spend three half days per week in outpatient clinics located on the first floor of the Fontbonne Building at St. Joseph's Hospital. General hematology clinics occur on Tuesday and Thursday mornings, 0830-1200 hours. A specialized anticoagulant clinic occurs on Monday afternoons, 1300-1500 hours. Thromboembolism clinics occur every afternoon, 1300-1600 hours; but residents are not expected to attend the thromboembolism clinics regularly.

Responsibilities of the Resident

Residents will be responsible for attending ambulatory clinics and reviewing inpatient consults in a timely manner, while supervising junior residents and medical students at different levels of training. Hematology residents will be supervised by the hematology faculty at St. Joseph's Hospital, but will be encouraged to function as independently as possible.

A unique aspect of this rotation is the supervision of other residents (primarily Internal Medicine residents [PGY 1-3]) and senior medical students. The number of Internal Medicine residents and medical students rotating on the Hematology-Thromboembolism rotation at St. Joseph's Hospital varies monthly. On average, there will be 2 Internal Medicine residents and/or medical students that the resident will be responsible for overseeing. The resident will be expected to delegate the inpatient consults, review the consults and formulate an appropriate investigational and/or management plan for these patients. The aim is for the resident to provide a comprehensive hematology consultation service, where they will be required to communicate with the requesting physicians/health care professionals and follow up on any laboratory or imaging tests that are ordered. In the outpatient clinic, the resident will be responsible for reviewing the clinic cases with the Internal Medicine residents and medical students, in addition to seeing clinic patients independently, if the clinic is busy. Residents are expected to be punctual, to dictate notes on the patients they have seen and provide teaching around the clinic cases. For both inpatient consults and clinic patients, the resident will be expected to consult

the literature as needed and to discuss the appropriate diagnostic and treatment approaches with the attending staff. The resident will also be responsible for providing teaching sessions for the Internal Medicine residents/medical students. These will include formal structured teaching sessions and informal discussion around clinical cases seen on the inpatient and outpatient services.

Residents are expected to be available for the Internal Medicine residents/medical students and to establish a daily plan that best manages the time around the inpatient consults and outpatient clinics. Residents will be expected to be able to provide a thorough patient sign-over to the attending St. Joseph's Hospital hematologist daily; this will need to be translated in writing to the on-call physician prior to the weekend call (the internal medicine residents/medical students will do this, but the resident is expected to review the sign-over list for accuracy).

The resident is expected to attend all educational rounds at St. Joseph's Hospital, as well as Hematology Academic Half-Day. The resident will also be asked to prepare one academic presentation during the one-month rotation (given at Vascular Medicine rounds, held on Thursday between 12:45 and 13:30h).

On-Call Duties

This clinical rotation includes out-of-hospital on-call experience in hematology and thromboembolism. The resident will be on call for one weekend during the rotation (starting Friday at 1700 hours to Monday at 0800 hours). When residents are on-call, they are the physician of first contact, but are appropriately supervised and backed up by one of the faculty.

Faculty

The faculty marked with an asterisk will be involved in supervising the resident on the Junior Attending rotation. Residents may work with the other faculty in the outpatient clinics or on-call. The Hematology staff rotates on a weekly service schedule; this schedule is posted in the Hematology office.

Rotation and site residency supervisor: Dr. Wendy Lim (Dr. Howard Chan while Dr. Lim on Maternity Leave)

Faculty	Inpatient hematology	Inpatient thrombo-embolism	Outpatient clinics	Weekend on-call	Weekday on-call
Dr. H. Chan*	X	X	X (Tues am/pm)	X	X
Dr. M. Crowther*	X	X	X (Thurs am)	X	X
Dr. J. Douketis		X	X (Mon pm)	X	X
Dr. C. Klein			X (Tues & Thurs am)		
Dr. W. Lim*	X	X	X (Thurs am/pm)	X	X
Dr. P. Powers*	X	X	X (Tues & Thurs am, Wed pm)	X	X

Resources

A resident area is available in the Hematology office with a computer, printer and telephone. There is internet access on the computer, with on-line capabilities for literature searches and access to UptoDate. This room is open during office hours, 0800-1600 hrs daily.

The hospital library is located on the 2nd floor of the Tower, room T2305. Library hours are 0800-1800 hrs Mon, Wed, Fri and 0800-2000 hrs on Tues and Thurs.

Computer access

St. Joseph's uses the Provider Portal system for laboratory and radiology results. Residents without a user ID and password should complete a User Access Request Form and email it to RFSADMIN@stjosham.on.ca. Information Services (room G226 located on the 2nd floor around the corner from the cafeteria, x33040) will contact the resident when has been arranged.

Resident Evaluation

Residents are provided with feedback during the rotation concerning their proficiency in managing clinical problems and their performance in informal and formal teaching sessions. Feedback for on-call duties is provided by the faculty member working with the resident, particularly when they share weekend on-call duties. The resident meets with the rotation supervisor at the mid-point of the rotation to provide two-way feedback on the rotation and to discuss the goals for the remainder of the rotation are discussed. On completion of the rotation, a formal web-based CanMEDS-compliant evaluation is completed by the rotation supervisor, with feedback from the other individuals, including allied health professionals. Final evaluations are discussed with the resident.

Evaluation of the Rotation

Residents are encouraged to provide feedback on how the rotation and teaching are structured. This is particularly important since this is a new rotation initiated in July 2008. As with all hematology rotations, an anonymous formal evaluation of the rotation is handled by a web-based evaluation system. Teaching faculty are evaluated separately in a similar manner, as for other rotations. Separate from these evaluations, hematology residents meet every 1-2 years to compile a collective rotation evaluation.

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies: *Hematology residents on this rotation are required to be able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to hematology
3. Perform a complete and appropriate assessment of a patient
4. Use preventive and therapeutic interventions effectively
5. Demonstrate proficient and appropriate use of procedural skills (bone marrow aspirate and biopsy).
6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Enabling Competencies: *Physicians are able to...*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centred medical care

1.1 Effectively perform consultations and follow-up assessments, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional
1.2 Demonstrate effective use of all CanMEDS competencies relevant to Hematology
1.3 Identify and appropriately respond to relevant ethical issues arising in patient care
1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems
1.5 Demonstrate compassionate and patient-centred care
1.6 Recognize and respond to the ethical dimensions in medical decision-making
1.7 Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed

2. Establish and maintain clinical knowledge, skills and attitudes appropriate to the clinical setting

2.1 Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Hematology including the appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of “standard medical treatments”, as outlined below:
   a. Development, structure and function of the hematopoietic system
   b. Pathophysiology of alterations in morphology and quantity of formed elements in the blood
   c. Indications for and interpretation of common hematologic tests
   d. Principles underlying transfusion of blood and blood products
   e. Characteristics and principles of investigation and treatment of the following □eukaemia□ical conditions:
      i. Anemia

ii. Neutropenia
iii. Thrombocytopenia – immune and non-immune
iv. Hemochromatosis and iron overload
v. Monoclonal gammopathy and multiple myeloma
vi. Chronic lymphocytic leukemia
vii. Myeloproliferative disorders
viii. Bleeding disorders – von Willebrand disease, factor deficiencies
ix. Thromboembolic disorders – deep vein thrombosis and pulmonary embolism
x. Thrombophilias

2.2 Diagnose and manage hematology patients in an ambulatory setting
2.3 Understand the history of disease and therapy in the clinic patient population
2.4 Describe the RCPSC framework of competencies relevant to Hematology and Internal Medicine
2.5 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence
2.6 Contribute to the enhancement of quality care and patient safety in their practice, integrating the available best evidence and best practices

3. Perform a complete and appropriate assessment of a patient

3.1 Assess new patients and manage follow-up patients in a timely manner in the ambulatory setting
3.2 Effectively identify and explore issues to be addressed in a patient encounter, including the patient's context and preferences
3.3 For the purposes of prevention and health promotion, diagnosis and or management, elicit a history that is relevant, concise and accurate to context and preferences
3.4 For the purposes of prevention and health promotion, diagnosis and/or management, perform a focused physical examination that is relevant and accurate
3.5 Select medically appropriate investigative methods in a resource-effective and ethical manner
3.6 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans

4. Use preventive and therapeutic interventions effectively

4.1 Implement an effective management plan in collaboration with a patient and their family
4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the physician's practice
4.3 Ensure appropriate informed consent is obtained for therapies

5. Demonstrate proficient and appropriate use of procedural skills

5.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to haematology (specifically bone marrow aspiration and biopsy)
5.2 Ensure appropriate informed consent is obtained for procedures
5.3 Appropriately document and disseminate information related to procedures performed and their outcomes
5.4 Ensure adequate follow-up is arranged for procedures performed

6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

6.1 Demonstrate insight into his/her limitations of expertise via self-assessment
6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care
6.3 Arrange appropriate follow-up care services for a patient and their family

Communicator

Key Competencies: *Hematology residents on this rotation are able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families

2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about a medical encounter

Enabling Competencies: *Hematology residents are able to...*

1. Develop rapport, trust, and ethical therapeutic relationships with patients and families

1.1 Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes
1.2 Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy
1.3 Respect patient confidentiality, privacy and autonomy
1.4 Listen effectively
1.5 Be aware and responsive to nonverbal cues
1.6 Effectively facilitate a structured clinical encounter

2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals

2.1 Gather information about a disease, but also about a patient's beliefs, concerns, expectations and illness experience
2.2 Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals

3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals

3.1 Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making

4. Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care

4.1 Effectively identify and explore problems to be addressed from a patient encounter, including the patient's context, responses, concerns, and preferences
4.2 Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making
4.3 Encourage discussion, questions, and interaction in the encounter
4.4 Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care
4.5 Effectively address challenging communication issues such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding

5. Convey effective oral and written information about a medical encounter

5.1 Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans
5.2 Effectively present verbal reports of clinical encounters and plans
5.3 When appropriate, effectively present medical information to the public or media about a medical issue

Collaborator

Key Competencies: *Hematology residents are able to…*

1. Participate effectively and appropriately in an interprofessional healthcare team

2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

Enabling Competencies: *Hematology residents are able to...*

1. Participate effectively and appropriately in an interprofessional healthcare team

1.1 Clearly describe their roles and responsibilities to other professionals
1.2 Describe the roles and responsibilities of other professionals within the health care team
1.3 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own, establishing a collegial relationship with other professionals such that education in both directions is fostered
1.4 Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)
1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities
1.6 Participate effectively in interprofessional team meetings
1.7 Enter into interdependent relationships with other professions for the provision of quality care
1.8 Describe the principles of team dynamics
1.9 Respect team ethics, including confidentiality, resource allocation and professionalism
1.10 Where appropriate, demonstrate leadership in a healthcare team

2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

2.1 Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
2.2 Work with other professionals to prevent conflicts
2.3 Employ collaborative negotiation to resolve conflicts
2.4 Respect differences, misunderstandings and limitations in other professionals
2.5 Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension
2.6 Reflect on interprofessional team function

Manager

Key Competencies: *Hematology residents are able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Enabling Competencies: *Hematology residents are able to...*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems

1.1 Work collaboratively with medical students, junior residents, and allied health professionals on their team
1.2 Participate in systemic quality process evaluation and improvement, such as patient safety initiatives
1.3 Describe the structure and function of the healthcare system as it relates to their specialty, including the roles of physicians
1.4 Describe principles of healthcare financing, including physician remuneration, budgeting and organizational funding

2. Manage their practice and career effectively

2.1 Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life; specifically balancing inpatient and outpatient clinical activities, as well as educational responsibilities

2.2 Manage their team of residents and medical students, ensuring that both patient care responsibilities, as well as the educational needs of junior house staff, are met
2.3 Implement processes to ensure personal practice improvement
2.4 Employ information technology appropriately for patient care

3. Allocate finite healthcare resources appropriately

3.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care
3.2 Apply evidence and management processes for cost-appropriate care

4. Serve in administration and leadership roles, as appropriate

4.1 Coordinates the efforts of junior residents, medical students and allied health professionals
4.2 Chair or participate effectively in committees and meetings
4.3 Lead or implement a change in health care
4.4 Plan relevant elements of health care delivery (e.g., work schedules)

Health Advocate

Key Competencies: *Hematology residents are able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that they serve
3. Identify the determinants of health of the populations that they serve
4. Promote the health of individual patients, communities and populations

Enabling Competencies: *Hematology residents are able to...*

1. Respond to individual patient health needs and issues as part of patient care

1.1 Identify the health needs of an individual patient, demonstrating an appreciation of the health care needs of patients with hematologic disorders
1.2 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care (including, but not limited to preparation of treatment documents for patients, obtaining special access medications, arranging vaccinations and thrombosis prophylaxis)

2. Respond to the health needs of the communities that they serve

2.1 Describe the practice communities that they serve
2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately
2.3 Appreciate the possibility of competing interests between the communities served and other populations

3. Identify the determinants of health for the populations that they serve

3.1 Identify the determinants of health of the populations, including barriers to access to care and resources
3.2 Identify vulnerable or marginalized populations within those served and respond appropriately

4. Promote the health of individual patients, communities, and populations

4.1 Describe an approach to implementing a change in a determinant of health of the populations they serve
4.2 Describe how public policy impacts on the health of the populations served
4.3 Identify points of influence in the healthcare system and its structure
4.4 Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism
4.5 Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
4.5 Describe the role of the medical profession in advocating collectively for health and patient safety

Scholar

Key Competencies: *Hematology residents are able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

Enabling Competencies: *Hematology residents are able to...*

1. Maintain and enhance professional activities through ongoing learning

1.1 Describe the principles of maintenance of competence
1.2 Describe the principles and strategies for implementing a personal knowledge management system
1.3 Recognize and reflect learning issues in practice
1.4 Conduct a personal practice audit
1.5 Pose an appropriate learning question
1.6 Access and interpret the relevant evidence
1.7 Integrate new learning into practice
1.8 Evaluate the impact of any change in practice
1.9 Document the learning process

2. Critically evaluate medical information and its sources, and apply this appropriately to practice decisions

2.1 Describe the principles of critical appraisal
2.2 Critically appraise retrieved evidence in order to address a clinical question
2.3 Integrate critical appraisal conclusions into clinical care

3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate

3.1 Describe principles of learning relevant to medical education
3.2 Collaboratively identify the learning needs and desired learning outcomes of others
3.3 Select effective teaching strategies and content to facilitate others' learning
3.4 Demonstrate an effective lecture or presentation
3.5 Assess and reflect on a teaching encounter
3.6 Provide effective feedback
3.7 Describe the principles of ethics with respect to teaching

4. Contribute to the development, dissemination, and translation of new knowledge and practices

4.1 Describe the principles of research and scholarly inquiry
4.2 Describe the principles of research ethics
4.3 Pose a scholarly question
4.4 Conduct a systematic search for evidence
4.5 Select and apply appropriate methods to address the question
4.6 Appropriately disseminate the findings of a study

Professional

Key Competencies: *Hematology residents are able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

Enabling Competencies: *Hematology residents are able to...*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice

1.1 Exhibit appropriate professional behaviours in practice, including honesty, integrity, commitment, compassion, respect and altruism
1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence
1.3 Recognize and appropriately respond to ethical issues encountered in practice
1.4 Appropriately manage conflicts of interest
1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law
1.6 Maintain appropriate relations with patients

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

2.1 Appreciate the professional, legal and ethical codes of practice
2.2 Fulfil the regulatory and legal obligations required of current practice
2.3 Demonstrate accountability to professional regulatory bodies
2.4 Recognize and respond to others' unprofessional behaviours in practice
2.5 Participate in peer review

3. Demonstrate a commitment to physician health and sustainable practice

3.1 Balance personal and professional priorities to ensure personal health and a sustainable practice
3.2 Strive to heighten personal and professional awareness and insight
3.3 Recognize other professionals in need and respond appropriately

McMaster University Health Sciences

Adult Hematology Residency Program

IN-TRAINING EVALUATION REPORT FOR JUNIOR ATTENDING ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	**Satisfactory**	***Provisional Satisfactory**	***Unsatisfactory**	***Incomplete**
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				

Rotation Supervisor Comments

Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - CLINICAL						
a) Demonstrates a good understanding of basic scientific and clinical knowledge relevant to the rotation. This includes development, structure and function of the hematopoietic system; pathophysiology of alterations in morphology and quantity of formed elements in the blood; indications for and interpretation of common hematologic tests, principles underlying transfusion of blood and blood products; characteristics and principles of investigation and treatment of cytopenias, iron metabolism disorders, monoclonal gammopathies, low grade hematologic malignancies, bleeding disorders, and thromboembolic disorders.						
b) History and physical examinations are complete, accurate, and well organized.						
c) Selects medically appropriate investigations in a resource effective and ethical manner and is able to interpret the results of these investigations.						
d) Demonstrates proficiency in formulation of differential diagnoses.						
e) Uses an evidence-based approach to decision making.						
f) Uses all pertinent clinical, laboratory, and radiologic information to arrive at complete and accurate clinical decisions.						
g) Demonstrates familiarity with and is able to plan and institute preventative and therapeutic interventions.						
h) Recognizes and manages urgent consults in the inpatient and outpatient setting resulting in prompt and appropriate treatment.						
i) Effectively performs a consultation and follow-up visits, including well-documented assessments and recommendations.						
j) Seeks appropriate consultation from other health professionals, if appropriate.						
k) Identifies and responds appropriately to ethical situations arising in patient care.						
l) Demonstrates compassionate and patient-centered care.						

Comments

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - PROCEDURES						
a) Bone marrow biopsy and aspirate – is technically proficient, minimizes risks and patient discomfort, and ensures appropriate informed consent is obtained.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes a therapeutic relationship with patients and their caregivers. Demonstrates appropriate interviewing skills; communicates well and at an appropriate level with patients and families.						
b) Provides clear and thorough explanations of diagnosis, investigations and management to patients and their caregivers.						
c) Encourages full participation of the patient and their caregivers in decision-making and management.						
d) Communicates their impression of the consultation clearly and effectively to requesting physicians and health care providers						
e) Demonstrates an understanding of and sensitivity to issues involving disabilities, gender, race and culture when communicating with patients and caregivers.						
f) Able to obtain informed consent.						
g) Prepares accurate, organized, informative and timely written documentation (including patient notes and patient letters).						
h) Effectively presents verbal reports of clinical encounters and plans in an accurate, complete and organized fashion.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with health professionals by recognizing and acknowledging their roles and expertise.						
b) Delegates tasks effectively.						
c) Collaborates effectively and constructively with other members of the health care team to plan and provide integrated patient care.						
d) Handles conflict situations well.						
e) Understands issues involving disabilities, gender, race and culture when working with other team members.						
f) Demonstrates leadership skills and is able to modify style to according to the needs of the team. Facilitates involvement of team members.						
g) Effective collaborator as assessed by at least 2 allied health professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases).						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an appreciation of cost-containment and quality assurance programs and applies this to patient care.						
d) Provides effective patient care in a time-restricted environment.						
e) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments, as well as service and educational responsibilities.						
f) Understands the principles of ambulatory practice management.						
g) Coordinates the efforts of medical students, junior residents, and allied health professionals on their team.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients with hematologic disorders and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health.						
b) Recognizes and responds appropriately in advocacy situations (e.g. vaccinations, prophylactic antibiotics or anticoagulants, treatment documents for patients, special access drugs).						
c) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care.						
d) Works with patients and caregivers to obtain needed services for care and on-going family support.						
e) Identifies determinants of health affecting communities and understands the specialist's role to advocate for and to intervene on behalf of the community with respect to biologic, psychosocial, and economic factors that may affect health.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective and ongoing personal learning strategy.						
b) Recognizes learning issues and is able to pose an appropriate learning question.						
c) Considers educational needs of all levels of housestaff. Provides guidance and teaching to other residents and medical students, and provides timely and constructive feedback.						
d) Demonstrates effective teaching skills and emphasizes problem solving. Uses bedside teaching to demonstrate history-taking and physical examination skills. Is able to convey concepts to learners at different levels of training.						
e) Demonstrates an understanding of the importance of research to the practice of clinical medicine and has an understanding of the principles of clinical research.						
f) Is able to critically appraise medical information. Successfully integrates information from a variety of sources. Discusses literature retrieval, study methodology of papers, and application to individual patients.						
g) Presentations in teaching sessions are well prepared, clear and concise. Questions are answered clearly.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Demonstrates honesty and integrity (meets commitments, is forthright in interactions with patients, caregivers, and colleague, admits responsibility for errors).						
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory; is aware of personal, family, and cultural influences on patient well-being).						
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of patients and family members).						
d) Demonstrates reliability, responsibility, and conscientiousness (meets deadlines, is punctual, fulfills commitments, monitors patients, provides follow-up, completes and dictates notes promptly).						
e) Takes initiative to additional activities, within limits of knowledge and training.						
f) Demonstrates an understanding of the principles of ethics and applies these in clinical situations. Appreciates ethical dilemmas such as withdrawal of curative treatment, DNR, innovative therapies, disclosure, and consent.						
g) Demonstrates an awareness of own limitations and seeks advice when necessary. Accepts advice and feedback graciously.						
h) Fulfills the medical, legal and professional obligations of the specialty.						
Comments						

Leave taken by resident (number of weekdays) during this longitudinal clinic rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

LONGITUDINAL CLINIC EXPERIENCE

(UPDATED JUNE 22, 2009)

I. OVERVIEW

The goals of the longitudinal clinic experience are to allow the hematology resident to gain more experience in outpatient hematology care and to observe the history of both disease and treatment in this patient population.

Location of Rotation

Individual residents spend one-half day per week in an existing clinic during their typical first year rotations (i.e. not Elective, Oncology, MUMC Clinical, or Henderson Clinical rotations). Ideally, residents would spend consecutive six month blocks in two clinics of their choosing; however, three four-month blocks would also be acceptable.

Responsibilities of the Resident

Residents are provided with a list of available ambulatory clinics and are responsible for arranging to participate in a clinic that does not interfere with rotation-specific clinics and teaching sessions. Residents are expected to attend each weekly clinic, to be punctual, to dictate notes on all patients seen in the clinic in a timely fashion, to follow-up on any laboratory or imaging test ordered during the clinic and to provide a thorough patient sign-over to the attending physician at the end of the clinic.

Ambulatory Clinics Available for Longitudinal Clinic Experience

Attending(s)	Site*	Population	Clinic Time
Dr. M. Crowther Dr. W. Lim	SJH	General hematology	Thursday AM
Dr. H. Chan	SJH	General hematology	Tuesday AM
Dr. J. Kelton Dr. D. Arnold	MUMC	Platelet disorders	Monday PM
Dr. S. Bates Dr. J. Ginsberg Dr. F. Spencer	MUMC	Thrombosis (therapy duration; women's issues)	Monday PM
Dr. C. Hayward	MUMC	Platelet disorders	Monday AM
Dr. K. Webert	MUMC	Platelet disorders; some general hematology	Monday AM
Dr. B. Leber	MUMC	Malignant hematology; some general hematology	Wednesday AM/PM
Dr. I. Walker	MUMC	Malignant hematology; some general hematology	Tuesday AM/PM
Dr. P. Wasi	MUMC	Malignant hematology; some general hematology	Thursday AM
Dr. S. Schulman	HGH	Thrombosis (anticoagulant management; duration of therapy, query VTE)	Monday AM Wednesday AM
Dr. J. Eikelboom	HGH	Thrombosis (anticoagulant management; duration of therapy, query VTE)	Tuesday AM,
Dr. T. Kouroukis	JCC	Malignant hematology	Monday AM/PM, Wednesday AM Thursday AM/PM

*SJH = St. Joseph's Hospital; MUMC = McMaster University Medical Centre; HGH = Hamilton General Hospital; JCC = Juravinski Cancer Center

Available Times to Attend Longitudinal Ambulatory Clinics by Rotation

Rotation	Available Half-Days without Rotation-Specific Clinics or Teaching
Transfusion Medicine	Thursday AM/PM
Red Cell Disorders	Monday AM/PM, Wednesday AM, Friday PM
Thromboembolism	Monday AM, Tuesday AM/PM, Wednesday AM, Thursday AM/PM
Pediatric Hematology	Monday PM, Tuesday PM, Thursday PM, Friday PM
Cell Diagnostics	Preferred: Tuesday PM Alternates: Monday AM/PM, Wednesday AM, Thursday AM/PM, Friday PM
Coagulation/Hemostasis	Thursday AM/PM
Junior Attending	Monday AM, Tuesday PM, Wednesday AM/PM, Thursday PM, Friday PM

On-Call Duties

There are no additional longitudinal clinic call duties. The resident participates in rotation-specific call.

Faculty

The resident is free to choose a clinic supervisor either from amongst the members of the Hematology Group or locally from outside the group. However, longitudinal clinic experiences involving hematologists who are not faculty members must be approved by the Program Director.

Evaluation of the Resident

Residents are provided with informal feedback throughout the clinic experience concerning their proficiency at managing clinical problems. A formal evaluation session with the resident will take place at the mid-point in the rotation, as well as at the end of the rotation. Input is sought from all attending hematologists, as well as other members of the clinic team who have worked with the resident (e.g. nurse practitioners, nurses, other allied health professionals). Based on all feedback received, at the end of the longitudinal clinic experience, a formal web-based CanMEDS compliant ITER is compiled by the supervisor. Final evaluations are discussed with the resident.

Evaluation of the Rotation

At the time of both the mid-term and final evaluation of the hematology resident, feedback regarding the clinic experience, including its strengths and shortcomings, is requested from the resident. If issues arise, the resident is encouraged to bring these to the attention of the clinic supervisor immediately. A mechanism for dealing with any shortcomings will then be discussed with the resident. As with all hematology rotations, a formal evaluation of the clinic experience is handled by a web-based system. Teaching faculty are evaluated separately, in a similar manner, as for other rotations.

GOALS AND OBJECTIVES

Medical Expert

Key Competencies: *Hematology residents on this rotation are required to be able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to haematology
3. Perform a complete and appropriate assessment of a patient
4. Use preventive and therapeutic interventions effectively
5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Enabling Competencies: *Hematology resident are able to...*

1. **Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care**

   1.1 Effectively perform consultations and follow-up assessments, including the presentation of timely, well-documented assessments and recommendations in written and/or verbal form, in response to a request from another health care professional
   1.2 Demonstrate effective use of all CanMEDS competencies relevant to Hematology
   1.3 Identify and appropriately respond to relevant ethical issues arising in patient care
   1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems
   1.5 Demonstrate compassionate and patient-centered care
   1.6 Recognize and respond to the ethical dimensions in medical decision-making
   1.7 Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed

2. **Establish and maintain clinical knowledge, skills and attitudes appropriate to the clinical setting**

   2.1 Diagnose and manage hematology patients in an ambulatory setting
   2.2 Understand the history of disease and therapy in the clinic patient population
   2.3 Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Hematology including the appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of “standard medical treatments”
   2.4 Describe the RCPSC framework of competencies relevant to Hematology and Internal Medicine
   2.5 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence
   2.6 Contribute to the enhancement of quality care and patient safety in their practice, integrating the available best evidence and best practices

3. **Perform a complete and appropriate assessment of a patient**

   3.1 Assess new patients and manage follow-up patients in a timely manner in the ambulatory setting
   3.2 Effectively identify and explore issues to be addressed in a patient encounter, including the patient’s context and preferences
   3.3 For the purposes of prevention and health promotion, diagnosis and/or management, elicit a history that is relevant, concise and accurate to context and preferences
   3.4 For the purposes of prevention and health promotion, diagnosis and/or management, perform a focused physical examination that is relevant and accurate
   3.5 Select medically appropriate investigative methods in a resource-effective and ethical manner
   3.6 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans

4. **Use preventive and therapeutic interventions effectively**

   4.1 Implement an effective management plan in collaboration with a patient and their family
   4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the physician’s practice
   4.3 Ensure appropriate informed consent is obtained for therapies
   4.4 Ensure patients receive appropriate end-of-life care

5. **Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic**

   5.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to the practice of hematology in the elective setting (e.g. bone marrow biopsy/aspirate and lumbar puncture)
   5.2 Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to the practice of hematology in the elective setting (e.g. administration and supervision of chemotherapy, pheresis, blood product transfusion, phlebotomy)

5.3 Ensure appropriate informed consent is obtained for procedures
5.4 Appropriately document and disseminate information related to procedures performed and their outcomes
5.5 Ensure adequate follow-up is arranged for procedures performed

6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

6.1 Demonstrate insight into his/her limitations of expertise via self-assessment
6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care
6.3 Arrange appropriate follow-up care services for a patient and their family

Communicator

Key Competencies: *Hematology residents on this rotation are able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about a medical encounter

Enabling Competencies: *Hematology residents are able to...*

1. Develop rapport, trust, and ethical therapeutic relationships with patients and families

1.1 Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes
1.2 Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy
1.3 Respect patient confidentiality, privacy and autonomy
1.4 Listen effectively
1.5 Be aware and responsive to nonverbal cues
1.6 Effectively facilitate a structured clinical encounter

2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals

2.1 Gather information about a disease, but also about a patient's beliefs, concerns, expectations and illness experience
2.2 Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals

3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals

3.1 Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making

4. Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care

4.1 Effectively identify and explore problems to be addressed from a patient encounter, including the patient's context, responses, concerns, and preferences
4.2 Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making

4.3 Encourage discussion, questions, and interaction in the encounter
4.4 Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care
4.5 Effectively address challenging communication issues such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding

5. Convey effective oral and written information about a medical encounter

5.1 Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans
5.2 Effectively present verbal reports of clinical encounters and plans

Collaborator

Key Competencies: *Hematology residents are able to…*

1. Participate effectively and appropriately in an interprofessional healthcare team
2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

Enabling Competencies: *Hematology residents are able to...*

1. Participate effectively and appropriately in an interprofessional healthcare team

1.1 Clearly describe their roles and responsibilities to other professionals
1.2 Describe the roles and responsibilities of other professionals within the clinic team
1.3 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own
1.4 Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)
1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities
1.6 Participate effectively in interprofessional team meetings
1.7 Enter into interdependent relationships with other professions for the provision of quality care
1.8 Describe the principles of team dynamics
1.9 Respect team ethics, including confidentiality, resource allocation and professionalism
1.10 Where appropriate, demonstrate leadership in a healthcare team

2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

2.1 Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
2.2 Work with other professionals to prevent conflicts
2.3 Employ collaborative negotiation to resolve conflicts
2.4 Respect differences, misunderstandings and limitations in other professionals
2.5 Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension
2.6 Reflect on interprofessional team function

Manager

Key Competencies: *Physicians are able to…*

1. Participate in activities that contribute to the effectiveness of the ambulatory clinic
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Enabling Competencies: *Hematology residents are able to…*

1. Participate in activities that contribute to the effectiveness of the ambulatory clinic

1.1 Work collaboratively with others in the clinic setting
1.2 Participate in systemic quality process evaluation and improvement, such as patient safety initiatives
1.3 Demonstrate knowledge of the different roles and responsibilities of physicians, nurses, clerical staff, laboratory staff and other allied health professionals in the ambulatory clinic setting
1.4 Describe principles of healthcare financing, including physician remuneration, budgeting and organizational funding as it relates to ambulatory clinics

2. Manage their practice and career effectively

2.1 Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life
2.2 Provide effective and compassionate patient care in a time-restricted environment
2.3 Implement processes to ensure personal practice improvement
2.4 Employ information technology appropriately for patient care

3. Allocate finite healthcare resources appropriately

3.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care
3.2 Apply evidence and management processes for cost-appropriate care

4. Serve in administration and leadership roles, as appropriate

4.1 Chair or participate effectively in committees and meetings
4.2 Lead or implement a change in health care
4.3 Plan relevant elements of health care delivery (e.g., work schedules)

Health Advocate

Key Competencies: *Hematology residents are able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that they serve
3. Identify the determinants of health of the populations that they serve
4. Promote the health of individual patients, communities and populations

Enabling Competencies: *Hematology residents are able to...*

1. Respond to individual patient health needs and issues as part of patient care

1.1 Demonstrate an appreciation of the health care needs of patients with hematologic disorders
1.2 Identify the social, economic and biologic factors that may impact on an individual patient's health
1.3 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care (e.g. by preparation of treatment documents for patients, by obtaining special access medications, by arranging appropriate vaccinations or other prophylactic interventions)

2. Respond to the health needs of the communities that they serve

2.1 Describe the practice communities that they serve
2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately
2.3 Appreciate the possibility of competing interests between the communities served and other populations

3. Identify the determinants of health for the populations that they serve

3.1 Identify the determinants of health of the populations, including barriers to access to care and resources
3.2 Identify vulnerable or marginalized populations within those served and respond appropriately

4. Promote the health of individual patients, communities, and populations

4.1 Describe an approach to implementing a change in a determinant of health of the populations they serve
4.2 Describe how public policy impacts on the health of the populations served
4.3 Identify points of influence in the healthcare system and its structure
4.4 Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism
4.5 Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
4.5 Describe the role of the medical profession in advocating collectively for health and patient safety

Scholar

Key Competencies: *Physicians are able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

Enabling Competencies: *Physicians are able to...*

1. Maintain and enhance professional activities through ongoing learning

1.1 Describe the principles of maintenance of competence
1.2 Describe the principles and strategies for implementing a personal knowledge management system
1.3 Recognize and reflect learning issues in practice
1.4 Pose an appropriate learning question
1.5 Access and interpret the relevant evidence
1.6 Integrate new learning into practice
1.7 Evaluate the impact of any change in practice
1.8 Document the learning process

2. Critically evaluate medical information and its sources, and apply this appropriately to practice decisions

2.1 Describe the principles of critical appraisal
2.2 Critically appraise retrieved evidence in order to address a clinical question
2.3 Integrate critical appraisal conclusions into clinical care

3. Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate

3.1 Describe principles of learning relevant to medical education
3.2 Collaboratively identify the learning needs and desired learning outcomes of others
3.3 Select effective teaching strategies and content to facilitate others' learning
3.4 Demonstrate an effective lecture or presentation
3.5 Assess and reflect on a teaching encounter
3.6 Provide effective feedback
3.7 Describe the principles of ethics with respect to teaching

4. Contribute to the development, dissemination, and translation of new knowledge and practices

4.1 Describe the principles of research and scholarly inquiry
4.2 Describe the principles of research ethics
4.3 Pose a scholarly question
4.4 Contributes to the development of new knowledge by the performance of case reports, by chart review, by performance of continuous quality improvement or by original scientific research
4.5 Appropriately disseminate the findings of research

Professional

Key Competencies: *Physicians are able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

Enabling Competencies: *Physicians are able to...*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice

1.1 Exhibit appropriate professional behaviours in practice, including honesty, integrity, commitment, compassion, respect, punctuality, and altruism
1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence by acting promptly with respect to patient investigation, consultation and treatment; ensuring prompt completion of clinic letters; and providing thorough transfer information for physicians assuming care of their patients
1.3 Recognize and appropriately respond to ethical issues encountered in practice
1.4 Appropriately manage conflicts of interest
1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law
1.6 Maintain appropriate relations with patients

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

2.1 Appreciate the professional, legal and ethical codes of practice
2.2 Fulfill the regulatory and legal obligations required of current practice
2.3 Demonstrate accountability to professional regulatory bodies
2.4 Recognize and respond to others' unprofessional behaviours in practice
2.5 Participate in peer review

3. Demonstrate a commitment to physician health and sustainable practice

3.1 Balance personal and professional priorities to ensure personal health and a sustainable practice
3.2 Strive to heighten personal and professional awareness and insight
3.3 Recognize other professionals in need and respond appropriately

IN-TRAINING EVALUATION REPORT FOR LONGITUDINAL CLINIC

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	**Satisfactory**	***Provisional Satisfactory**	***Unsatisfactory**	***Incomplete**
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				

Rotation Supervisor Comments

Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - CLINICAL						
a) Demonstrates a good understanding of basic scientific and clinical knowledge relevant to clinic experience.						
b) History and physical examinations are complete, accurate, and well organized.						
c) Selects medically appropriate investigations in a resource effective and ethical manner and is able to interpret the results of these investigations.						
d) Demonstrates proficiency in formulation of differential diagnoses.						
e) Uses an evidence-based approach to decision making.						
f) Uses all pertinent clinical, laboratory, and radiologic information to arrive at complete and accurate clinical decisions.						
g) Demonstrates familiarity with and is able to plan and institute preventative and therapeutic interventions.						
h) Recognizes and manages urgent consults, resulting in prompt and appropriate treatment.						
i) Effectively performs a consultation and follow-up visits, including well-documented assessments and recommendations.						
j) Seeks appropriate consultation from other health professionals.						
k) Identifies and responds appropriately to ethical situations arising in patient care.						
l) Demonstrates compassionate and patient-centered care.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - PROCEDURES						
a) Bone marrow biopsy and aspirate – is technically proficient, minimizes risks and patient discomfort, and ensures appropriate informed consent is obtained.						
b) Lumbar puncture (including administration of intrathecal chemotherapy) – is technically proficient, minimizes risks and patient discomfort, ensures appropriate informed consent is obtained.						
c) Administration of chemotherapy – the resident must demonstrate knowledge of the different classes of chemotherapy, techniques of administering chemotherapy, and toxicity profiles of agents used in the treatment of hematologic malignancies.						
d) Maintenance of vascular access.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes a therapeutic relationship with patients and their caregivers. Demonstrates appropriate interviewing skills; communicates well and at an appropriate level with patients and families.						
b) Provides clear and thorough explanations of diagnosis, investigations and management to patients and their caregivers.						
c) Encourages full participation of the patient and their caregivers in decision-making and management.						
d) Demonstrates sensitivity to the emotional and personal needs of patients and families dealing with these illnesses. Recognizes the importance of patient-centered care. Develops skills in breaking bad news to families.						
e) Demonstrates an understanding of and sensitivity to issues involving disabilities, gender, race and culture when communicating with patients and caregivers.						
f) Able to obtain informed consent (for procedures, transfusions, chemotherapy and other treatments).						
g) Prepares accurate, organized, informative, and timely written documentation (including patient notes and patient letters).						
h) Effectively presents verbal reports of clinical encounters and plans in an accurate, complete and organized fashion.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with health professionals by recognizing and acknowledging their roles and expertise.						
b) Consults and delegates effectively.						
c) Collaborates effectively and constructively with other members of the health care team to plan and provide integrated patient care. Takes on appropriate share of workload.						
d) Handles conflict situations well.						
e) Understands issues involving disabilities, gender, race and culture when working with other team members.						
f) Demonstrates flexible leadership skills. Facilitates involvement of team members.						
g) Effective collaborator as assessed by at least 2 allied health professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases).						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an appreciation of cost-containment and quality assurance programs and applies this to patient care.						
d) Provides effective patient care in a time-restricted environment.						
e) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments. Organizes time so as to regularly attend Longitudinal Clinic.						
f) Understands the principles of ambulatory practice management.						
g) Coordinates the efforts of the clinic team.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients with hematologic disorders and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health.						
b) Recognizes and responds appropriately in advocacy situations (e.g. vaccinations, prophylactic antibiotics or anticoagulants, treatment documents for patients, special access drugs).						
c) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care.						
d) Works with patients and caregivers to obtain needed services for care and on-going family support.						
e) Identifies determinants of health affecting communities and understands the specialist's role to advocate for and to intervene on behalf of the community with respect to biologic, psychosocial, and economic factors that may affect health.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective and ongoing personal learning strategy.						
b) Recognizes learning issues and is able to pose an appropriate learning question.						
c) Helps others to learn by providing guidance and teaching, and by giving constructive feedback.						
d) Does self-directed learning prior to clinic.						
e) Demonstrates an understanding of the importance of research to the practice of clinical medicine and has an understanding of the principles of clinical research.						
f) Demonstrates the skill of contributing to the development of new knowledge by the performance of case reports, original scientific research, or participation in the performance of continuous quality improvement or quality assurance.						
g) Is able to critically appraise medical information. Successfully integrates information from a variety of sources.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Demonstrates honesty and integrity (meets commitments, is forthright in interactions with patients, caregivers, and colleague, admits responsibility for errors).						
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory; is aware of personal, family, and cultural influences on patient well-being).						
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of patients and family members).						
d) Demonstrates reliability, responsibility, and conscientiousness (meets deadlines, is punctual, fulfills commitments, monitors patients, provides follow-up, completes and dictates notes promptly).						
e) Takes initiative to additional activities, within limits of knowledge and training.						
f) Demonstrates an understanding of the principles of ethics and applies these in clinical situations. Appreciates ethical dilemmas such as withdrawal of curative treatment, DNR, innovative therapies, disclosure, and consent.						
g) Demonstrates an awareness of own limitations and seeks advice when necessary. Accepts advice and feedback graciously.						
h) Fulfills the medical, legal and professional obligations of the specialty.						
Comments						

Leave taken by resident (number of weekdays) during this longitudinal clinic rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

MEDICAL ONCOLOGY ROTATION
Juravinski Cancer Centre

(UPDATED JUNE 22, 2009)

I. OVERVIEW

General Description of the Rotation

The Medical Oncology Rotation at the Juravinski Cancer Centre is a one-month clinical rotation. It is designed to meet the objectives of the McMaster University Post-Graduate Education Committee and the Royal College of Physicians and Surgeons and to provide an experience that will facilitate the resident's education in becoming a competent consultant in clinical hematology. The goal of this experience is to allow the hematology resident to gain exposure to medical oncology patients; however, there is no expectation that the resident will become an expert in the diagnosis or management of solid tumours.

Responsibilities of the Hematology Resident

The Medical Oncology Rotation is one month in duration and includes patient care activities in the out-patient setting, educational activities as well as an educational role of the resident, and exposure to research activities of the Department of Oncology. Residents are expected to attend clinics, to be punctual, to dictate notes on all patients seen in a timely fashion, and to provide a thorough patient sign-over to the attending physician at the end of the clinic.

Patient Care Activities:

The outpatient experience of this rotation will include eight half-day tumour-site specific outpatient clinics per week. These clinics will involve both the assessment of newly referred patients, as well as the provision of care on an ongoing basis. Clinics will be selected by the Rotation Supervisor, in conjunction with the Medical Oncology Residency Training Program Director, in order to provide broad exposure to the different cancer types most relevant to the resident's future career as a haematologist.

Educational Activities:

Educational activities, which are a priority for the hematology resident, include both scheduled rounds and other academic sessions. The resident is expected to attend the Hematology Residents' educational half-day on a weekly basis, as well as Hematology Grand Rounds and weekly Oncology Rounds. A half-day per week will be set aside for reading.

Research Activities:

The resident is expected to become familiar with and knowledgeable of the objectives, design and specifics of implementing ongoing research protocols that apply to patients with solid tumors. Research activities initiated by the resident will be encouraged and facilitated.

On-Call Duties

This clinical rotation includes an on-call experience in hematology. Residents are on-call (out-of-hospital), on average, one night per week and one weekend over the one-month period. Residents take first call for the Hematology Service at the Henderson General Hospital. The on-call responsibilities on the weekend include making rounds on in-patients of the Hematology Service and acting as the first call for outpatients. The on-call experience may also include the management of problems of the hematology laboratories. The above on-call experience will be appropriately supervised by the attending staff on-call for both the Clinical and Laboratory Services.

Faculty

For their outpatient clinic experience, residents will be supervised by medical oncologists with a particular area of special interest who are experienced in the education of residents from different backgrounds and at all levels

of training. For on-call, residents will be supervised by staff hematologists involved in the education of hematology residents.

Rotation and site residency supervisor:
Dr. Deb Marcellus
Attending hematologists (for on-call):
Dr. Deb Marcellus
Dr. Ann Benger
Dr. Graeme Fraser
Dr. Ronan Foley
Dr. Tom Kouroukis
Dr. Michael Trus
Attending oncologists (for ambulatory experience):
Dr. Bindi Dhesy
Dr. Andrew Arnold
Dr. Peter Ellis
Dr. Alvaro Figueredo
Dr. John Goffin
Dr. Hal Hirte
Dr. Sebastien Hotte
Dr. Pierre Major
Dr. Elaine McWhirter
Dr. Som Mukherjee
Dr. Richard Tozer
Dr. Kevin Zbuk

Resources

Cancer Centre Library
Henderson Hospital Library

Resident Evaluation

An orientation session will take place either prior to or during the first week of the rotation to discuss the goals and description of this rotation with the resident. The specific objectives of the resident will be discussed and an attempt made to integrate these objectives into the overall objectives of the rotation.

Residents are provided with informal feedback throughout the clinic experience concerning their proficiency at managing patient problems. An evaluation session with the resident will take place at the mid-point in the rotation (two weeks), as well as at the end of the rotation. This will include a discussion of the resident's progress in meeting the goals of this rotation, the Residency Program, and the Royal College of Physicians and Surgeons. Input is sought from all attending oncologists, as well as members of the team who have worked with the resident. Based on the feedback received at the end of the rotation, a formal CanMEDS compliant ITER is completed by the rotation supervisor. Final evaluations are discussed with the resident.

Evaluation of the Rotation

At the time of both the mid-term and final evaluation of the hematology resident, feedback regarding the rotation, including its strengths and shortcomings, is requested from the resident. If issues arise during the rotation, the resident is encouraged to bring these to the attention of the rotation supervisor. A mechanism for dealing with any shortcomings will then be discussed with the resident. As with all hematology rotations, an anonymous formal evaluation of the rotation is handled by a web-based evaluation system. Teaching faculty are evaluated separately in a similar manner, as for other rotations. Separate from these evaluations, hematology residents meet every 1-2 years to compile a collective rotation evaluation.

II. GOALS AND OBJECTIVES

Medical Expert

Definition: As *Medical Experts*, hematology residents are expected to integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centered care. *Medical Expert* is the central physician Role in the CanMEDS framework.

Description: On this rotation, hematology residents will acquire a defined body of knowledge, clinical skills, procedural skills and professional attitudes, which are directed to effective patient-centered care, with an emphasis on the provision of care to patients with oncologic malignancies. They will apply these competencies to collect and interpret information, make appropriate clinical decisions, and carry out diagnostic and therapeutic interventions. They will do so within the boundaries of their discipline, personal expertise, the healthcare setting and the patient's preferences and context, under the supervision of the attending oncologist. Care is to be characterized by up-to-date, ethical, and resource-efficient clinical practice, as well as with effective communication in partnership with patients, other health care providers and the community. The Role of Medical Expert is central to the function of residents and draws on the competencies included in the Roles of Communicator, Collaborator, Manager, Health Advocate, Scholar and Professional.

Key Competencies: *Hematology residents should be able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to the practice of hematology
3. Perform a complete and appropriate assessment of a patient
4. Use preventive and therapeutic interventions effectively
5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Enabling Competencies: *Hematology residents should be able to...*

1. **Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care**
   - 1.1 Effectively perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional
   - 1.2 Demonstrate effective use of all relevant CanMEDS competencies relevant to the practice of hematology
   - 1.3 Identify and appropriately respond to relevant ethical issues arising in patient care
   - 1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems
   - 1.5 Demonstrate compassionate and patient-centered care
   - 1.6 Recognize and respond to the ethical dimensions in medical decision-making
2. **Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice**
   - 2.1 Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to medical oncology, as outlined below.
     a. Natural history and epidemiology of cancer (including risk factors, patterns of growth and spread, prognostic variables)
     b. Theories of carcinogenesis, including oncogenes and tumor suppressor genes
     c. Patterns of tumor invasion, and metastases (including angiogenesis, invasion of local tissues, lymphatics, and blood vessels, colony formation at distant sites, tumor cell migration)
     d. Basic scientific knowledge related to cancer and its treatment (growth kinetics such as proliferation and apoptosis, molecular biology, biochemistry, clinical pharmacology, endocrinology and immunology)
     e. Common techniques in molecular biology (including PCR, blotting, chromosomal analysis)
     f. Inter-relationship between the tumor and host immune system including tumor antigenicity, immune-mediated tumor cytotoxicity, and the effect of cytokines on the tumor

g. Principles of cancer therapy including, knowledge of the different classes of chemotherapy, biologic response modifiers, hormones, immunologic therapies (including mechanisms of action, short and long-term toxicities, mechanisms of resistance)
h. Recognition and management of medical emergencies (spinal cord compression, superior vena cava syndrome, febrile neutropenia, hypercalcemia, obstructive uropathy)
i. Supportive care issues surrounding the care of oncology patients including venous access issues, transfusion support, appropriate use of hematopoietic growth factors, recognition and treatment of infectious complications, management of gastrointestinal side effects, nutritional support, and pain control
j. Psychological and ethical aspects of treating patients with cancer
k. Conduct and analysis of clinical trials, including objectives, design, and interpretation of ongoing clinical trials and care of patients participating in clinical trials

2.2 Manage medical oncology patients in an ambulatory setting
2.3 Describe the RCPSC framework of competencies relevant to the physician's specialty
2.4 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence
2.5 Contribute to the enhancement of quality care and patient safety in their practice, integrating the available best evidence and best practices

3. Perform a complete and appropriate assessment of a patient

3.1 Assess new patients and manage follow-up patients in a timely manner in the ambulatory setting
3.2 Effectively identify and explore issues to be addressed in a patient encounter, including the patient's context and preferences
3.3 For the purposes of prevention and health promotion, diagnosis and or management, elicit a history that is relevant, concise and accurate to context and preferences
3.4 For the purposes of prevention and health promotion, diagnosis and/or management, perform a focused physical examination that is relevant and accurate
3.5 Select medically appropriate investigative methods in a resource-effective and ethical manner
3.6 Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans

4. Use preventive and therapeutic interventions effectively

4.1. Implement an effective management plan in collaboration with a patient and their family
4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the physician's practice
4.3 Ensure appropriate informed consent is obtained for therapies
4.4 Ensure patients receive appropriate end-of-life care

5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic

5.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures as indicated below:
a. Lumbar punctures, with and without administration of chemotherapy, demonstrating not only the technical skill but awareness of informed consent, patient comfort and knowledge of the appropriate special tests to request (ie cell markers, cytopathology, etc.)
b. Care and use of central venous lines
c. Thoracentesis
d. Paracentesis.

5.2 Demonstrate effective, appropriate, and timely performance of therapeutic procedures as outlined below:
a. Chemotherapy administration, demonstrating knowledge of different classes of chemotherapy, biologic response modifiers, hormones; toxicity profiles (short and long-term) of agents used to treat malignant diseases; techniques of administering systematic and intrathecal (either through lumbar puncture of Omaya reservoir) chemotherapy; handling and disposal of chemotherapeutic and biologic agents
b. Thoracentesis
c. Paracentesis

5.3 Ensure appropriate informed consent is obtained for procedures

5.4 Appropriately document and disseminate information related to procedures performed and their outcomes
5.5 Ensure adequate follow-up is arranged for procedures performed

6. **Seek appropriate consultation from other health professionals, recognizing the limits of their expertise**
   6.1 Demonstrate insight into their imitations of expertise via self-assessment
   6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care
   6.3 Arrange appropriate follow-up care services for a patient and their family

Communicator

Definition: As *Communicators*, hematology residents are expected to effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

Description: On this rotation, hematology residents should enable patient-centred therapeutic communication through shared decision-making and effective dynamic interactions with patients, families, caregivers, other professionals, and important other individuals. The competencies of this Role are essential for establishing rapport and trust, formulating a diagnosis, delivering information, striving for mutual understanding, and facilitating a shared plan of care. Poor communication can lead to undesired outcomes, and effective communication is critical for optimal patient outcomes. The application of these communication competencies and the nature of the doctor-patient relationship vary for different specialties and forms of medical practice.

Key Competencies: *Hematology residents should be able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about a medical encounter

Enabling Competencies: *Hematology residents should be able to...*

1. **Develop rapport, trust, and ethical therapeutic relationships with patients and families**
   1.1 Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes
   1.2 Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy
   1.3 Respect patient confidentiality, privacy and autonomy
   1.4 Listen effectively
   1.5 Be aware and responsive to nonverbal cues
   1.6 Effectively facilitate a structured clinical encounter
   1.7 Understand the psychological aspects of caring for patients with life-threatening and/or chronic disorders and develop skills in communicating around issues such as end of life, death and dying

2. **Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals**
   2.1 Gather information about a disease, but also about a patient's beliefs, concerns, expectations and illness experience
   2.2 Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals

3. **Accurately convey relevant information and explanations to patients and families, colleagues and other professionals**

3.1 Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making

4. **Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care**
   4.1 Effectively identify and explore problems to be addressed from a patient encounter, including the patient's context, responses, concerns, and preferences
   4.2 Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making
   4.3 Encourage discussion, questions, and interaction in the encounter
   4.4 Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care
   4.5 Effectively address challenging communication issues such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding

5. **Convey effective oral and written information about a medical encounter**
   5.1 Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans
   5.2 Effectively present verbal reports of clinical encounters and plans

Collaborator

Definition: As *Collaborators*, physicians effectively work within a healthcare team to achieve optimal patient care.

Description: On this rotation, haematology residents will work in partnership with others who are appropriately involved in the care of individuals or specific groups of patients. This is increasingly important in a modern multiprofessional environment, where the goal of patient-centred care is widely shared. Modern healthcare teams not only include a group of professionals working closely together at one site, such as a multidisciplinary clinic team, but also extended teams with a variety of perspectives and skills, in multiple locations. It is therefore essential for physicians to be able to collaborate effectively with patients, families, and an interprofessional team of expert health professionals for the provision of optimal care, education and scholarship.

Key Competencies: *Hematology residents should be able to…*

1. Participate effectively and appropriately in an interprofessional healthcare team
2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

Enabling Competencies: *Hematology residents are able to...*

1. **Participate effectively and appropriately in an interprofessional healthcare team**
   1.1 Clearly describe their roles and responsibilities to other professionals
   1.2 Describe the roles and responsibilities of other professionals within the health care team
   1.3 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own
      a. Establish a collegial relationship with the nurse practitioners such that education in both directions will be fostered
   1.4 Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients)
   1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities
   1.6 Participate effectively in interprofessional team meetings by contributing clinically useful opinions on patients referred for consultation, including ordering and arranging for specific testing, administering required therapy, and conveying the results of the opinion to referring physician.
   1.7 Describe the principles of team dynamics
   1.8 Respect team ethics, including confidentiality, resource allocation and professionalism
   1.9 Where appropriate, demonstrate leadership in a healthcare team

2. **Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict**
   - 2.1 Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
   - 2.2 Work with other professionals to prevent conflicts
   - 2.3 Employ collaborative negotiation to resolve conflicts
   - 2.4 Respect differences, misunderstandings and limitations in other professionals
   - 2.5 Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension
   - 2.6 Reflect on interprofessional team function

Manager

Definition: As *Managers*, physicians are integral participants in healthcare organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the healthcare system.

Description: On this rotation, hematology residents interact with their work environment as individuals, as members of teams or groups, and as participants in the health system locally, regionally or nationally. The balance in the emphasis among these three levels varies depending on the nature of the specialty, but all specialties have explicitly identified management responsibilities as a core requirement for the practice of medicine in their discipline. Physicians function as Managers in their everyday practice activities involving co-workers, resources and organizational tasks, such as care processes, and policies as well as balancing their personal lives. Thus, physicians require the ability to prioritize, effectively execute tasks collaboratively with colleagues, and make systematic choices when allocating scarce healthcare resources. The CanMEDS Manager Role describes the active engagement of all physicians as integral participants in decision-making in the operation of the healthcare system.

Key Competencies: *Hematology residents should be able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Enabling Competencies: *Hematology residents should be able to...*

1. **Participate in activities that contribute to the effectiveness of their healthcare organizations and systems**
   - 1.1 Work collaboratively with others in their organizations
   - 1.2 Participate in systemic quality process evaluation and improvement, such as patient safety initiatives
   - 1.3 Demonstrate knowledge of the different roles and responsibilities of physicians, nurses, clerical staff, laboratory staff and other allied health professionals in the ambulatory clinic setting
   - 1.4 Describe principles of healthcare financing, including physician remuneration, budgeting and organizational funding
2. **Manage their practice and career effectively**
   - 2.1 Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life
   - 2.2 Provide effective and compassionate patient care in a time-restricted environment
   - 2.3 Implement processes to ensure personal practice improvement
   - 2.4 Employ information technology appropriately for patient care
3. **Allocate finite healthcare resources appropriately**
   - 3.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care
   - 3.2 Apply evidence and management processes for cost-appropriate care

4. **Serve in administration and leadership roles, as appropriate**
   4.1 Chair or participate effectively in committees and meetings
   4.2 Lead or implement a change in health care
   4.3 Plan relevant elements of health care delivery (e.g., work schedules)

Health Advocate

Definition: As *Health Advocates*, physicians responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

Description: On this rotation, hematology residents should recognize their duty and ability to improve the overall health of their patients and the society they serve. Doctors identify advocacy activities as important for the individual patient, for populations of patients and for communities. Individual patients need physicians to assist them in navigating the healthcare system and accessing the appropriate health resources in a timely manner. Communities and societies need physicians' special expertise to identify and collaboratively address broad health issues and the determinants of health. At this level, health advocacy involves efforts to change specific practices or policies on behalf of those served. Framed in this multi-level way, health advocacy is an essential and fundamental component of health promotion. Health advocacy is appropriately expressed both by individual and collective actions of physicians in influencing public health and policy.

Key Competencies: *Hematology residents should be able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that they serve
3. Identify the determinants of health of the populations that they serve
4. Promote the health of individual patients, communities and populations

Enabling Competencies: *Hematology residents should be able to...*

1. **Respond to individual patient health needs and issues as part of patient care**
   1.1 Demonstrate an appreciation of the health care needs of patients with oncologic disorders
   1.2 Identify the identify the important determinants of health affecting individual patients
   1.3 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care (e.g. preparation of treatment documents for patients, by obtaining special access medications, by discussing smoking cessation, by arranging vaccinations, thrombosis prophylaxis, or other prophylactic interventions)

2. **Respond to the health needs of the communities that they serve**
   2.1 Describe the practice communities that they serve
   2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately
   2.3 Appreciate the possibility of competing interests between the communities served and other populations

3. **Identify the determinants of health for the populations that they serve**
   3.1 Identify the determinants of health of the populations, including barriers to access to care and resources
   3.2 Identify vulnerable or marginalized populations within those served and respond appropriately

4. **Promote the health of individual patients, communities, and populations**
   4.1 Describe an approach to implementing a change in a determinant of health of the populations they serve
   4.2 Describe how public policy impacts on the health of the populations served
   4.3 Identify points of influence in the healthcare system and its structure
   4.4 Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism
   4.5 Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
   4.6 Describe the role of the medical profession in advocating collectively for health and patient safety

Scholar

Definition: As *Scholars,* physicians demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.

Description: Hematology residents should engage in a lifelong pursuit of mastering their domain of expertise. As learners, they recognize the need to be continually learning and model this for others. Through their scholarly activities, they contribute to the creation, dissemination, application and translation of medical knowledge. As teachers, they facilitate the education of their students, patients, colleagues, and others.

Key Competencies: *Hematology residents should be able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

Enabling Competencies: *Hematology residents should be able to...*

1. **Maintain and enhance professional activities through ongoing learning**
   - 1.1 Describe the principles of maintenance of competence
   - 1.2 Describe the principles and strategies for implementing a personal knowledge management system
   - 1.3 Recognize and reflect learning issues in practice
   - 1.4 Pose an appropriate learning question
   - 1.5 Access and interpret the relevant evidence
   - 1.6 Integrate new learning into practice
   - 1.7 Evaluate the impact of any change in practice
   - 1.8 Document the learning process - develop, implement and monitor a personal continuing education strategy
2. **Critically evaluate medical information and its sources, and apply this appropriately to practice decisions**
   - 2.1 Describe the principles of critical appraisal
   - 2.2 Critically appraise retrieved evidence in order to address a clinical question
   - 2.3 Integrate critical appraisal conclusions into clinical care
3. **Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate**
   - 3.1 Describe principles of learning relevant to medical education
   - 3.2 Collaboratively identify the learning needs and desired learning outcomes of others
   - 3.3 Select effective teaching strategies and content to facilitate others' learning
   - 3.4 Demonstrate an effective lecture or presentation
   - 3.5 Assess and reflect on a teaching encounter
   - 3.6 Provide effective feedback
   - 3.7 Describe the principles of ethics with respect to teaching
4. **Contribute to the development, dissemination, and translation of new knowledge and practices**
   - 4.1 Describe the principles of research and scholarly inquiry
   - 4.2 Describe the principles of research ethics
   - 4.3 Pose a scholarly question
   - 4.4 Conduct a systematic search for evidence as it applies to patient care
   - 4.4 Critically appraise sources of medical information
   - 4.5 Develop the ability to apply the principles of quality assurance to clinical care
   - 4.6 Participate in ongoing clinical research protocols

Professional

Definition: As *Professionals*, physicians are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

Description: On this rotation, hematology residents should continue to be aware that physicians have a unique societal role as professionals who are dedicated to the health and caring of others. Their work requires the mastery of a complex body of knowledge and skills, as well as the art of medicine. As such, the Professional Role is guided by codes of ethics and a commitment to clinical competence, the embracing of appropriate attitudes and behaviors, integrity, altruism, personal well-being, and to the promotion of the public good within their domain. These commitments form the basis of a social contract between a physician and society. Society, in return, grants physicians the privilege of profession-led regulation with the understanding that they are accountable to those served.

Key Competencies: *Hematology residents should be able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

Enabling Competencies: *Hematology residents should be able to...*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice

1.1 Exhibit appropriate professional behaviours in practice, including honesty, integrity, commitment, compassion, respect and altruism
1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence
1.3 Recognize and appropriately respond to ethical issues encountered in practice
1.4 Appropriately manage conflicts of interest
1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law
1.6 Maintain appropriate relations with patients

2. Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

2.1 Appreciate the professional, legal and ethical codes of practice
2.2 Fulfill the regulatory and legal obligations required of current practice
2.3 Demonstrate accountability to professional regulatory bodies
2.4 Recognize and respond to others' unprofessional behaviours in practice

3. Demonstrate a commitment to physician health and sustainable practice

3.1 Balance personal and professional priorities to ensure personal health and a sustainable practice
3.2 Strive to heighten personal and professional awareness and insight
3.3 Recognize other professionals in need and respond appropriately

IN-TRAINING EVALUATION REPORT FOR MEDICAL ONCOLOGY ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	**Satisfactory**	***Provisional Satisfactory**	***Unsatisfactory**	***Incomplete**
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				
Rotation Supervisor Comments *Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.*				

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - CLINICAL						
a) Demonstrates a good understanding of basic scientific and clinical knowledge relevant to rotation. This includes the carcinogenesis, epidemiology of cancer (including risk factors, patterns of growth and spread, prognostic variables), basic scientific knowledge related to cancer and its treatment (growth kinetics, molecular biology, biochemistry, clinical pharmacology, endocrinology and immunology), epidemiology and biostatistics, management of medical emergencies (spinal cord compression, superior vena cava syndrome, febrile neutropenia, hypercalcemia) and complications (e.g. mucositis, sepsis, thrombosis) that may arise as a result of cancer or its treatment, supportive care of patients with cancer (including treatment of pain and nausea, as well as of nutritional and psychological needs).						
b) History and physical examinations are complete, accurate, and well organized.						
c) Selects medically appropriate investigations in a resource effective and ethical manner and is able to interpret the results of these investigations.						
d) Demonstrates proficiency in formulation of differential diagnoses.						
e) Uses an evidence-based approach to decision making.						
f) Uses all pertinent clinical, laboratory, and radiologic information to arrive at complete and accurate clinical decisions.						
g) Demonstrates familiarity with and is able to plan and institute preventative and therapeutic interventions.						
h) Recognizes and manages emergency conditions (extremely ill patient) resulting in prompt and appropriate treatment. Remains calm in emergency situations, acts in a timely manner, and prioritizes correctly.						
i) Effectively performs a consultation, including assessments, and recommendations.						
j) Seeks appropriate consultation from other health professionals.						
k) Provides credible assessments and opinions.						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – CLINICAL (CONTINUED)						
l) Identifies and responds appropriately to ethical situations in patient care.						
m) Demonstrates compassionate and patient-centered care.						
Comments						
MEDICAL EXPERT - PROCEDURES						
a) Lumbar puncture (including administration of intrathecal chemotherapy) – is technically proficient, minimizes risks and patient discomfort, ensures appropriate informed consent is obtained, ensures that the appropriate testing for the diagnosis suspected is requested on the samples.						
b) Thoracentesis (diagnostic and therapeutic) – is technically proficient, minimizes risks and patient discomfort, ensures appropriate informed consent is obtained and that appropriate testing for the diagnosis suspected is requested on the samples.						
c) Paracentesis (diagnostic and therapeutic) – is technically proficient, minimizes risks and patient discomfort, ensures appropriate informed consent is obtained, ensures that appropriate testing for the diagnosis suspected is requested on the samples.						
d) Administration of chemotherapy – the resident must demonstrate knowledge of the different classes of chemotherapy, biologic response modifiers, hormones, immunologic therapies, techniques of administering chemotherapy, and toxicity profiles of agents used in the treatment of malignant disease.						
e) Maintenance of vascular access.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes a therapeutic relationship with patients and their caregivers. Demonstrates appropriate interviewing skills; communicates well and at an appropriate level with patients and families.						
b) Provides clear and thorough explanations of diagnosis, investigation and management to patients and their caregivers.						
c) Encourages full participation of the patient and their caregivers in decision-making and management.						
d) Demonstrates sensitivity to the emotional and personal needs of patients and families dealing with these illnesses. Recognizes the importance of patient-centered care. Develops skills in breaking bad news to families.						
e) Demonstrates an understanding of and sensitivity to issues involving disabilities, gender, race and culture when communicating with patients and caregivers.						
f) Able to obtain informed consent (for procedures, transfusions, chemotherapy and other treatments).						
g) Prepares accurate, legible, organized and timely written documentation (including clinic notes and patient letters).						
h) Effectively presents verbal reports of clinical encounters and plans in an accurate, complete and organized fashion.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with health professionals by recognizing and acknowledging their roles and expertise.						
b) Consults and delegates effectively.						
c) Collaborates effectively and constructively with other members of the health care team. Takes on appropriate share of workload.						
d) Works with other members of the clinic team to assess, plan, provide and integrate care for individual patients.						
e) Handles conflict situations well.						
f) Understands issues involving disabilities, gender, race and culture when working with other team members.						
g) Demonstrates flexible leadership skills.						
h) Effective collaborator as assessed by at least 2 allied health care professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases).						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an appreciation of cost-containment and quality assurance programs and applies this to patient care and laboratory management.						
d) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments.						
e) Organizes time so as to attend assigned clinics.						
f) Understands the principles of practice management.						
g) Coordinates the efforts of the healthcare team.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health.						
b) Recognizes and responds appropriately in advocacy situations.						
c) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care.						
d) Works with patients and caregivers to obtain needed services for care and on-going family support including social services and Limited Use/Section 8 medications.						
e) Identifies determinants of health affecting communities and understands the specialist's role to advocate for and to intervene on behalf of the community with respect to biologic, psychosocial, and economic factors that may affect health.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective, ongoing learning strategy.						
b) Demonstrates ongoing learning by quoting recent reading and/or literature on topics related to current patients.						
c) Understands the principles of life-long learning and helps others to learn by providing guidance and teaching, and by giving constructive feedback.						
d) Does self-directed learning prior to interactions with colleagues.						
e) Demonstrates an understanding of the importance of research to clinical medicine and has an understanding of the principles of clinical research.						
f) Demonstrates the skill of contributing to development of new knowledge by the performance of case reports, original scientific research, or participation in the performance of continuous quality improvement or quality assurance.						
g) Is able to critically appraise medical information. Successfully integrates information from a variety of sources.						
h) Takes initiative in stating own opinions regarding assessments and therapies. Takes into account all available knowledge.						
i) Appreciates when current or recommended treatments are no longer appropriate.						
j) Presentations in teaching sessions and/or rounds are well prepared, clear, concise, and make appropriate use of audiovisual aids.						
k) Meets core content knowledge for the rotation.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Demonstrates honesty and integrity (meets commitments, is forthright in clinical interactions, admits responsibility for errors).						
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory; is aware of personal, family, and cultural influences on patient well-being).						
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of patients and family members). - Gains the confidence of patients and their families. - Identifies patients' next-of-kin; where necessary, other important supports. - Communicates readily with patients and/or relatives.						
d) Demonstrates reliability, responsibility, and conscientiousness (is punctual, meets deadlines, fulfills commitments, monitors patients, provides follow-up). - Is on time for clinic. - Demonstrates professional responsibility for assigned patients by ensuring each is seen and assessed. - Completes and dictates clinic notes promptly. - Acts promptly with respect to investigation, consultation, treatment.						
e) Takes initiative to do additional activities, within limits of knowledge and training.						
f) Demonstrates an understanding of the principles of ethics and applies these in clinical situations. Appreciates ethical dilemmas such as withdrawal of curative treatment, DNR, innovative therapies, disclosure, and consent.						
g) Demonstrates an awareness of own limitations and seeks advice when necessary. Accepts advice and feedback graciously.						
h) Fulfills the medical, legal and professional obligations of the specialty.						
Comments						

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

PEDIATRIC HEMATOLOGY ROTATION
McMaster University Medical Centre

(UPDATED JUNE 22, 2009)

I. OVERVIEW

General Description of the Rotation

The Pediatric Hematology Rotation at McMaster University Medical Centre is intended for first year Hematology Residents (Postgraduate Year [PGY] 4). It is designed to meet the objectives of the McMaster University Post-Graduate Education Committee and the Royal College of Physicians and Surgeons and to provide an experience that will facilitate the resident's education in becoming a competent consultant in Clinical Hematology. This one month rotation will include both outpatient and inpatient consultative pediatric Hematology exposure, as well as ongoing outpatient clinical care.

Responsibilities of the Resident

Clinical
It is expected that the trainee will function as a junior consultant within the service, which provides expertise to other pediatric facilities within the region. Accordingly, the resident has supervised responsibility for outpatient clinics and in-patient consultation on pediatric hematological problems. In addition, the trainee participates in the education of pediatric residents and of the numerous medical undergraduates who pursue electives in pediatric hematology-oncology.

Educational
The trainee will actively participate in teaching rounds/seminars. During these educational sessions, which will occur at least once weekly, essential topics in pediatric hematology will be discussed. The resident is will attend Tumour Board on Monday morning, Education Rounds on Wednesday morning and Clinical Rounds on Friday morning, prior to Hematology Academic Half-Day.

The resident is expected to attend Hematology Academic Half-Day, Hematology Grand Rounds and their Longitudinal Clinic. They will be excused for these activities.

Requests for Vacation and Leave of Absence
The Royal College requires a minimum of one month exposure to Pediatric Hematology. It is the resident's responsibility to request in writing to the Pediatric Program Director any proposed leave from the Pediatric Rotation. This request will be copied to the Hematology Program Director in order to ensure that College requirements are being followed.

On-call Duties

Residents enrolled in the Adult Hematology Residency Training Program are not expected to provide on-call coverage of the Pediatric Hematology service. Instead, they participate in out-of-hospital call that covers all adult haematology at McMaster University Medical Centre, including hemostasis, nonmalignant and malignant hematology, at an approximate ratio of one evening per week and one weekend per month. A faculty member is assigned to back-up the resident when the resident is on-call. The on-call duties provide the residents with important experiences in dealing with urgent and nonurgent adult clinical hematology problems.

Faculty

The members of the Division of Hematology-Oncology in the Department of Pediatrics are:

- Dr. U. Athale
- Dr. R. Barr
- Dr. A. Chan, Division Chief
- Dr. M. Greenberg (PT)
- Dr. I. Hodson (PT)

Dr. L Lieberman (PT)
Dr. M. Pai (Professor Emeritus)
Dr. C. Portwine, Rotation Supervisor
Dr. K. Scheinemann
Dr. A. Whitton (PT)

Resources

Clinical
The annual recruitment of new children with cancer averages 55, with approximately 4,500 total clinic visits per year (some 90% by children with malignant disease). About 2,000 procedural events are performed annually in the outpatient area.

The service is supported by 2 clinical nurse specialists, 6 dedicated full-time nurses, 3 part-time nurses, 2.7 full-time social workers, 2 full-time pharmacists, one FTE from each of child life, nutrition, and psychometry; and 0.5 FTE from OT/PT and psychology.

Educational
A file containing references of important review articles and highlights of major advances in the field of pediatric hematology is available to residents as an academic resource. This resource is updated from time to time to keep abreast with developments in the field. Residents have access to files and a computer with internet connections in their Residents' Room at MUMC.

Resident Evaluation

Residents are provided with feedback concerning their proficiency in managing clinical problems and their performance in informal and formal teaching sessions during the rotation. The resident meets with the rotation supervisor at the mid-point of the rotation to provide two-way feedback on the rotation. At the mid-point of the rotation, the goals for the remainder of the rotation are discussed. A formal CanMEDs complaint web-based evaluation is completed at the end of the rotation by the rotation supervisor, with feedback from the other staff members, including allied health professionals. Final evaluations are discussed with the resident.

Evaluation of the Rotation

Residents are encouraged to provide feedback on how the rotation and teaching are structured. Resident input has been enthusiastically received. As with all hematology rotations, an anonymous formal evaluation of the rotation is handled by a web-based system. Teaching faculty are evaluated separately in a similar manner, as for other rotations. Separate from these evaluations, hematology residents meet every 1-2 years to compile a collective rotation and faculty evaluation, respecting anonymity. This has been important to maintaining feedback with the size of our program.

Rotation Topics

1. Developmental hematology and normal values for age
2. Neonatal hematology
    - Developmental hematology in the fetus
    - Bilirubin metabolism
    - Consequences of maternal-fetal incompatibility
    - Pathophysiology of hemostasis in the newborn
    - Transfusion practice in the newborn
    - Neonatal thrombocytopenia
3. Diagnostic approach to anemia
4. Mechanisms and management of purpura
5. Sickle cell anemia
6. Thalassemia syndromes – molecular and clinical pathogenesis
7. Aplastic anemia
8. Inherited marrow failure syndromes
9. Granulocytopenia and disorders of granulocyte function

Rotation Topics (Continued)

10. Leukemia in childhood
    - ALL
    - AML/MDS
    - CML
    - JMML
11. Lymphomas in childhood
12. Splenomegaly and disorders of the spleen
13. Disorders of histiocytes
    - Langerhan's cell histiocytosis
    - Hemophagocytic syndromes
14. Immunodeficiency and cancer
15. Late effects of treatment of childhood cancer
16. The HLA system
17. Thrombosis
18. Red cell membrane disorders
19. Long-term complications of therapy and follow-up

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies: *Physicians are able to…*

1. Function effectively as a consultant, integrating all of the CanMEDS roles to provide optimal, ethical and patient-centered medical care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to Pediatric Hematology
3. Perform a complete and appropriate assessment of a patient, with ages ranging from the neonate to 18 years
4. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
5. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Specific Requirements

1. The hematology resident must demonstrate in-depth knowledge of:

   1.1 The development, structure and function of the hemopoietic system in infancy, childhood and adolescence, including changes in normal values with age
   1.2 The physiology of factors responsible for hemostasis and thrombosis in infancy, childhood and adolescence
   1.3 The pathophysiology of alterations in morphology and quantity of formed elements in the blood of pediatric patients
   1.4 The indications for and interpretation of common hematologic tests in this patient population
   1.5 The principles underlying transfusion and hyper-transfusion of blood and blood products in infancy, childhood and adolescence
   1.6 The characteristics and principles of investigation and treatment of leukemias and lymphomas in pediatric patients
   1.7 The infectious complications in pediatric patients with malignant and non-malignant hematologic disorders

2. The hematology resident must demonstrate the ability to assess and investigate patients with malignant or non-malignant hematologic disorders in a manner appropriate for the patient's age, including the ability to:

   2.1 Establish a professional relationship and interact with infants, toddlers, children or adolescents and their care-givers in order to obtain a relevant history
   2.2 Perform an efficient physical examination, demonstrating sensitivity to the patient's needs, modified according to the patient's age

2.3 Understand and appropriately respond to the biomedical ethics involved in the in the investigation and care of children and adolescents with hematological disorders, including the appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of "standard medical treatments"

3. The hematology resident must demonstrate the ability to perform the following technical skills:

3.1 Bone marrow aspiration and biopsy from sites appropriate to the size of the child.
3.2 Lumbar puncture and administration of intrathecal medications.
3.3 Laboratory skills, including the interpretation of blood smears, bone marrow aspirations, hemostasis work-up and blood bank data

Communicator

Key Competencies: *Physicians are able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3 Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
4 Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about medical encounter

Specific Requirements

1. The hematology resident must be able to:

1.1 Establish effective relationships with children, their parents, legal guardians or other caregivers in order to obtain a meaningful history and to conduct a relevant physical examination
1.2 Communicate effectively and humanely and discuss appropriate information with patients and families and all members of the interdisciplinary health care team
1.3 Understand the psychosocial aspects of caring for children with life threatening and/or chronic disorders, and their families
1.4 Maintain clear, accurate and appropriate patient records and effectively present verbal reports of clinical encounters and plans

Collaborator

Key Competencies: *Physicians are able to…*

1. Participate effectively and appropriately in an inter-professional healthcare team
2. Effectively work with other health professionals to prevent, negotiate, and resolve inter-professional conflict

Specific Requirements:

1. The hematology resident should be able to:

1.1 Contribute clinically useful hematological opinions on pediatric patients referred for consultation, including ordering and arranging for specific testing, administering required therapy, and conveying the results of the hematological opinion to referring physicians
1.2 Consult and collaborate with physicians and other health care professionals, and contribute effectively to interdisciplinary team activities within and between hospitals, other health care facilities and collaborative groups

Manager

Key Competencies: *Physicians are able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
2. Manage his/her practice and career effectively
3. Allocate finite health care resources appropriately

4. Serve in administration and leadership roles, as appropriate

Specific Requirements:

1. The hematology resident should be able to:

   1.1 Demonstrate knowledge of the definitions and role of audits, quality improvement, risk management and incident reporting in a hospital and ambulatory setting
   1.2. Demonstrate understanding of cost/benefit ratios of diagnostic and therapeutic interventions, cost containment and efficacy as they relate to quality assurance
   1.3. Set priorities and mange time to balance patient care, practice requirements, outside activities and personal life

Health Advocate

General Requirements: *Physicians are able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that he/she serves
3. Identify the determinants of health of the populations that he/she serves
4. Promote the health of individual patients, communities and the populations

Specific Requirements

1. The hematology resident should be able to:

   1.1 Demonstrate an appreciation of the health care needs of children with hematologic disorders
   1.2 Encourage the promotion of active family involvement in decision-making and continuing management of the child with hematologic disorders

Scholar

Key Competencies*: Physicians are able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice
3. Facilitate the learning of patients, families, students, residents other health professionals, the public, and others as appropriate

   4. Contribute to the creation, dissemination, application and translation of new medical knowledge and practices

Specific Requirements:

1. The hematology resident should:

   1.1 Develop the ability to apply the principles of quality assurance to clinical care
   1.2 Develop critical appraisal skills specific to the hematological literature, particularly as it applies to treatments of hematologic disorders of children and adolescents, and for procedures (such as hemopoietic stem cell transplantation), where randomized trials are difficult or impossible
   1.3. Access and interpret relevant evidence from the literature and integrate it into clinical practice
   1.4. Identify the learning needs of others and select and demonstrate effective teaching strategies

Professional

General Requirements: *Physicians are able to…*

1. Demonstrate a commitment to his/her patients, families, profession and society through ethical practice
2. Demonstrate a commitment to his/her patients, families, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

IN-TRAINING EVALUATION REPORT FOR PEDIATRIC HEMATOLOGY ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ to _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	**Satisfactory**	***Provisional Satisfactory**	***Unsatisfactory**	***Incomplete**
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				
Rotation Supervisor Comments *Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.*				

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - CLINICAL						
a) Demonstrates a good understanding of basic scientific and clinical knowledge relevant to resolving common clinical problems in pediatric hematology.						
b) History and physical examinations related to disorders of pediatric haematology are complete, accurate, and well organized.						
c) Demonstrates proficiency in formulation of differential diagnoses related to pediatric hematologic diseases.						
d) Demonstrates a good ability to critically analyze, prioritize, and solve clinical problems.						
e) Able to select, time, and sequence laboratory tests; demonstrates ability to interpret results of appropriate diagnostic investigations relating to patient care in pediatric hematology.						
f) Uses all pertinent clinical, laboratory, and radiologic information to arrive at complete and accurate clinical decisions.						
g) Recognizes and manages emergency conditions (extremely ill patient; including complications of therapy) resulting in prompt and appropriate treatment. Remains calm in emergency situations, acts in a timely manner, and prioritizes correctly.						
h) Demonstrates familiarity with and is able to plan and institute preventative and therapeutic interventions of common hematologic disorders.						
i) Uses good clinical judgment to competently and appropriately provide consultations for children and adolescents with suspected pediatric hematologic disorders.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - PROCEDURES						
a) Bone marrow aspirate – is technically proficient, minimizes risks and patient discomfort, and ensures appropriate informed consent is obtained.						
b) Bone marrow biopsy – is technically proficient, minimizes risks and patient discomfort, and ensures appropriate informed consent is obtained.						
c) Lumbar puncture (including administration of intrathecal chemotherapy) – is technically proficient, minimizes risks and patient discomfort, ensures appropriate informed consent is obtained.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL						
e) Is proficient in rotation-specific laboratory or technical procedures.						
f) Problem solving skills indicate an ability to resolve technical problems.						
g) Demonstrates appropriate knowledge of laboratory results and uses them appropriately in clinical decision making and/or for research purposes.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes a therapeutic relationship with patients and their caregivers. Demonstrates appropriate interviewing skills; communicates well and at an appropriate level with patients and families.						
b) Provides clear and thorough explanations of diagnosis, investigation and management to patients and their caregivers.						
c) Establishes good relationships with peers and other handles health professionals. Effectively provides and receives information. Handles conflict situations well.						
d) Demonstrates an understanding of the psychosocial issues children and their families face in dealing with the diagnosis of a hematologic disorder.						
e) Demonstrates sensitivity to the emotional and personal needs of patients and families dealing with these illnesses. Recognizes the importance of patient-centered care. Develops skills in breaking bad news to families.						
f) Able to obtain informed consent.						
g) Prepares accurate, organized and timely written documentation (including patient notes, discharge summaries and patient letters).						
h) Effectively presents verbal reports of clinical encounters and plans in an accurate, complete and organized fashion.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with health professionals by recognizing and acknowledging their roles and expertise.						
b) Consults and delegates effectively.						
c) Is respectful of the professional roles of other team members; collaborates effectively and constructively with other members of the health care team.						
d) Understands issues involving disabilities, gender, race and culture when working with other team members.						
e) Demonstrates flexible leadership skills.						
f) Effective collaborator as assessed by at least 2 allied health care professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases) to optimize patient care and life-long learning.						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an appreciation of cost-containment and quality assurance programs as they pertain to pediatric hematologic disorders.						
d) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health.						
b) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care of the child.						
c) Works with patients and caregivers to obtain needed services for care and on-going family support.						
d) Recognizes the health care needs of children/adolescents are different from adults and that they change throughout the developmental continuum.						
e) Recognizes the importance of community services (school, recreation, and appropriate transportation) in the health of a child with hematologic disorders.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective and ongoing personal learning strategy including analysis and evaluation of the relevant medical literature.						
b) Understands the principles of life-long learning and helps others to learn by providing guidance and teaching, and by giving constructive feedback.						
c) Is able to critically appraise medical information. Successfully integrates information from a variety of sources.						
d) Demonstrates an understanding of the importance of research to the practice of clinical medicine and has an understanding of the principles of clinical research.						
e) Able to clearly, accurately, and succinctly give an informative presentation in an area in pediatric hematology.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Demonstrates honesty and integrity (meets commitments, is forthright in interactions with patients, caregivers, and colleagues, admits responsibility for errors).						
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory; is aware of personal, family, and cultural influences on patient well-being).						
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of patients and family members).						
d) Demonstrates reliability, responsibility, and conscientiousness (meets deadlines, is punctual, fulfills commitments, monitors patients and provides follow-up).						
e) Demonstrates an understanding of the principles of ethics and applies these in clinical situations Appreciates ethical dilemmas such as withdrawal of curative treatment, DNR, innovative therapies, disclosure, and consent.						
f) Demonstrates self-awareness (an awareness of own limitations and seeks advice when necessary; accepts advice and feedback graciously; is cognizant of appropriate professional boundaries).						
g) Demonstrates altruism (unselfish regard for and devotion to the welfare of others).						
h) Fulfills the medical, legal and professional obligations of the specialty.						
Comments						

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

RED CELL DISORDERS
St. Joseph's Healthcare/McMaster University Medical Centre (MUMC)

(UPDATED JUNE 22, 2009)

I. OVERVIEW

The red cell disorders rotation is a laboratory-based rotation which reviews the laboratory investigation of hemoglobinopathies and hemolytic anemia. Mondays, Wednesdays and Friday afternoons are spent in the Molecular Hematology laboratory at McMaster University Medical Centre (MUMC) observing and performing specialized laboratory analysis, including molecular diagnostics. Residents will also be responsible for reviewing and interpreting these test results under supervision to come to an appropriate diagnosis and for reporting these results.

The rotation's clinical component involves a monthly hemoglobinopathy clinic at MUMC (under the supervision of Dr. U. Athale) and 2 half-day per week outpatient hematology clinics at St. Joseph's Hospital (Tuesday and Thursday mornings). These are general hematology clinics, with a focus on benign hematology (thromboembolism, hemostasis, and some hemoglobinopathies) and low-grade malignant hematology (myeloproliferative disorders, monoclonal gammopathies, indolent lymphoma, chronic leukemia). Residents may also participate in the afternoon outpatient Thromboembolism clinics at St. Joseph's Hospital, where patients with suspected or confirmed thromboembolic diseases are assessed and treated.

On-Call Duties

The residents participate in the Hematology Call Schedule (1 weekend/month out-of-hospital call) with one of the staff hematologists at the St. Joseph's site. These on-call duties provide the resident with important experience in dealing with urgent and non-urgent adult clinical hematology and thromboembolism problems.

Faculty

MUMC faculty
Mr. Andrew McFarlane – Laboratory rotation coordinator (Rotation Supervisor)
Dr. Uma Athale – Clinical teaching, hemoglobinopathies
Mr. Barry Eng – Laboratory instructor (molecular diagnostics)
Mrs. Linda Halchuk – Laboratory instructor
Dr. John Waye – Teaching, molecular hemoglobinopathies

St. Joseph's Hospital faculty
Dr. Howard Chan – Clinical teaching, general hematology
Dr. Mark Crowther – Clinical teaching, general hematology/thromboembolism
Dr. James Douketis – Clinical teaching, thromboembolism
Dr. Wendy Lim – Clinical teaching, general hematology/thrombembolism
Dr. Peter Powers – Clinical teaching, general hematology

Resources and Resident Responsibilities

The Red Cell Disorders Laboratory at McMaster is the major reference laboratory for red cell disorders in this region. The Provincial Hemoglobinopathy Laboratory at the Hamilton Health Sciences Centre – McMaster Site is the Ontario Reference Laboratory for DNA investigation of hemoglobinopathies. Laboratory staff and faculty participate in teaching.

During this rotation, residents will be exposed to aspects of laboratory management and quality assurance. Teaching sessions with Mr. Barry Eng will cover basic molecular diagnostics, while Dr. John Waye will provide an introduction to health advocacy relevant to this setting. Residents will be required to do one presentations, either an interesting case study or a topic of their choice, for the Molecular Hematology and Gentics laboratory rounds.

During their rotation, the residents attend weekly general hematology clinics at St. Joseph's Hospital, held in the Fontbonne Building Outpatient Department. Clinics start at 0830h and run until 1200 h. Residents are encouraged to attend the Vascular Medicine rounds at St. Joseph's Hospital (following the Thursday morning

clinic, 1245-1330 h). These are resident-focused rounds in which Internal Medicine residents rotating through the Hematology/Thromboembolism rotation at St. Joseph's Hospital present on any hematology topic of their interest. The Hematology Resident will be responsible for one oral presentation on any haematology or thromboembolism topic of their choice at these rounds during their Red Cell Disorders rotation. These presentations are attended by the St. Joseph's faculty and are meant to be an opportunity for the resident to learn about a topic of interest. Residents will also attend monthly hemoglobinopathy clinics at the MUMC site.

Textbooks, key references, and other material are available for the resident. The residents have access to a computer with internet access in their Residents' Room at the MUMC site.

During this rotation, as well as throughout the remainder of the academic year, residents are required to attend video conferences conducted by the Canadian National Hemoglobinopathy Group. These conferences occur at least quarterly and generally involve presentation of an interesting case, followed by discussion.

Resident Evaluation

Residents are provided with feedback during the rotation concerning their proficiency in interpreting laboratory test results, presenting seminars and managing clinical problems. Feedback for on-call duties is provided by the faculty member working with the resident for the weekend on-call. The resident meets with the rotation supervisor at the mid-point of the rotation to complete a Mid-Unit Evaluation, provide two-way feedback on the rotation, and discuss the goals for the remainder of the rotation. On completion of the rotation, a formal web-based CanMEDS compliant evaluation is completed by the rotation supervisor, with feedback from the other individuals, including allied health professionals (using a Multisource Feedback Form). Final evaluations are discussed with the resident.

Evaluation of the Rotation

Residents are encouraged to provide feedback on how the rotation and teaching are structured. Resident input has been enthusiastically received. As with all hematology rotations, a formal anonymous evaluation of the rotation is handled by a web-based system. Teaching faculty are evaluated separately in a similar manner, as for other rotations. Separate from these evaluations hematology residents have met every 1 – 2 years to compile a collective (to preserve anonymity) rotation evaluation.

Outline of Rotation

Module 1: Introduction to the RBC, Basic RBC Laboratory Analysis and RBC Morphological Assessment

Introduction to the RBC, basic laboratory analysis

Suggested reading:

(a) Red Cell Manual:
Chapter 1, General characteristics of the erythron, pages 1-36
Chapter 2, Detection of anemia, pages 39-61

(b) Essential Haematology: fifth edition
Chapter 1, Blood cell formation (Haemopoiesis), pages 1-11
Chapter 2, Erythropoiesis and general aspects of anemia, pages 12-27

(c) Hookey L, et al. The use and interpretation of quantitative terminology in reporting of red cell morphology. Laboratory Hematology 2001;7:85-88

(d) Zandecki M, et al.Spurious counts and spurious results on haematology analysers: a review. Part I, Int J Haem, 29 (1). 2007:4-20

(e) Zandecki M, et al.Spurious counts and spurious results on haematology analysers: a review. Part II, Int J Haem, 29 (1). 2007:21-41

Handouts:

(a) Introduction to normal erythrocytes, erythrocyte abnormalities and the investigation of anemia
(b) LPTP Hematology (Morphology) - Glossary of descriptive terms

Presentations:

(a) Power point: Basic RBC laboratory analysis (with instructor)
(b) Power Point: Hematology residents' erythrocyte morphology (self-directed)

On-line: "Up-to-Date"

(a) Automated hematology instrumentation
(b) Regulation of erythropoiesis
(c) Evaluation of the peripheral blood smear

Associated Laboratory Demonstrations:

(a) Automated blood cell analyzers
(b) Interpretation of CBC
(c) Automated and manual reticulocyte count

Module 2: The Hypochromic Anemias

Iron deficiency anemia and hemochromatosis, anemia of chronic disease, sideroblastic anemia, the porphyrias

Suggested Reading:

(a) Red Cell Manual:
Chapter 3, Differential diagnosis of anemia, pages 67-96
(b) Mechanisms in Hematology:
Section 7, Heme synthesis and porphyrin metabolism, pages 7.1-7.6
Section 10, Iron Metabolism, pages 10.1-10.8
(c) Essential Haematology:
Chapter 3, Hypochromic anaemias, pages 27-43
(d) Hematology of Infancy and Childhood:
Chapter 12, Disorders of iron metabolism and sideroblastic anemia, pages 456-497
(e) Andrews NM. The molecular regulation of iron metabolism. Fifth Congress of the European Haematology Association 2000 (Education Book)
(f) Fleming RE. Advances in understanding the molecular basis for the regulation of dietary iron absorption. Current Opinions in Gastroenterol. 2005;21:201-206
(g) Andrews NM. Disorders of iron metabolism. New Engl J Med. 1999;341;1986-1995
(h) Andrews NM. Understanding heme transport. New Engl J Med. 2005;353:2508-2509
(i) Camaschella C. Understanding iron homeostasis through genetic analysis of hemochromatodsis and related disorders. Blood. 2005;106:3710-3717
(j) Adams PC et al. Hemochromatosis and iron-overload screening in a racially diverse population. New Engl J Med. 2005;352:1769-1778
(k) Fleming RE et al. Orchestration of iron homeostasis. New Engl J Med. 2005;352:1741-1744
(l) Limdi JK, Crampton JR. Hereditary haemochromatosis. QJM. 2004;97:315-324
(m) Pietrangelo A. Hereditary hemochromatosis - a new look at an old disease. New Engl J Med. 2004;350:2383-2397
(n) Weiss G, Goodnough LT. Anemia of chronic disease. New Engl J Med. 2005;352:1011-1023
(o) Choi JW. Sensitivity, specificity and predictive value of the serum soluble transferrin receptor at different stages of iron deficiency. Ann Clin Lab Sci. 2005;35:435-439
(p) Metzgeroth G et al. Soluble transferring receptor and zinc protoporphyrin – competitors or efficient partners? Eur J Haematol. 2005;75:309-317

Handouts:

(a) Microcytic anemia - iron deficiency

On-line: "Up-to-date"

(a) Causes and diagnosis of anemia due to iron deficiency
(b) Genetics of hereditary hemochromatosis
(c) Iron overload syndromes other than hereditary hemochromatosis
(d) Clinical aspects: diagnosis and treatment of the sideroblastic anemias
(e) Causes of the hereditary and acquired sideroblastic anemias
(f) Erythropoietic protoporphyria
(g) Congentital erythropoietic porphyria
(h) Best Practices and Research in Clinical Haematology, 2005 June;18
(i) Seminars in Liver Disease, 2005 November;24:4

Associated Laboratory Demonstrations:

(a) Zinc protoporphyrin
(b) Genetic hemochromatosis work-up - Technical Specialist of Genetics or Molecular Hematology/Red Cell Disorders

Module 3: The Hemoglobinopathies

Thalassemia

Suggested Reading:

(a) Balliere's Clinical Haematolology: The Haemoglobinopathies:
Chapter 1, The structure and function of normal and abnormal haemoglobins, pages 1-30
Chapter 2, The regulation of human globin gene expression, pages 31-5
Chapter 5, α-Thalassemia, pages 117-150
Chapter 6, β-Thalassemia, pages 151-175
(b) Disorders of Hemoglobin:Genetic, Pathophysiology and Clinical Management:
Section two: The α-thalassemias pages 231-388
Section three: The β-thalassemias, pages 389-489
(c) Lafferty J. The laboratory diagnosis of β-thalassemia. Can J Med Lab Sci. 1998;60:183-189
(d) Chui DH, Waye JS. Hydrops fetalis caused by alpha-thalassemia: an emerging health care problem (review article). Blood. 1998;91:2213-2222
(e) Kiss T et al. An algorithm to aid in the investigation of thalassemia trait in multicultural populations. Arch Pathol Lab Med. 2000;124:1320-1323
(f) Chui DH. Alpha-thalassemia: Hb H disease and Hb Barts hydrops fetalis. Ann NY Acad Sci. 2005;1054:25-32
(g) Waye JS, Chui DH. The alpha-globin gene cluster: genetic and disorders. Clin Invest Med. 2001;24:103-109
(h) Weatherall DJ. Phenotype-genotype relationships in monogenic disease: lessons from the thalassemias. Nature Rev. 2001;2:245-255
(i) Symposium of Erythropoeisis and Red Cell Disorders, BSH 2007, British Journal of Hematology,Volume 141,Issue 3, May 2008

On- line: "Up-to-Date"

(a) Structure and function of normal human hemoglobins
(b) Clinical manifestations of the thalassemias
(c) Pathophysiology of alpha-thalassemia
(d) Pathophysiology of beta-thalassemia
(e) Treatment of beta-thalassemia

Presentations:

(a) Power Point: Introduction to thalassemias (with instructor)

Hemoglobin Variants

Suggested Reading:

(a) Balliere's Clinical Haematology: The Haemoglobinopthies:
Chapter 3, Sickle cell disease pathophysiology, pages 57-92
Chapter 4, The clinical features of sickle cell disease, pages 93-116
Chapter 7, Increased Hb F in adult life, pages 177-215
(b) Disorders of Hemoglobin: Genetics, Pathophysiology and Clinical Management
Section four: Sickle cell disease, page 489
Section six: The laboratory diagnosis of hemoglobin disorders, pages 941-958
(c) Clarke GM, Higgins TN. Laboratory investigation of hemoglobinopathies and thalassemias: review and update. Clinical Chemistry. 2000;46:284-1290
(d) Ou C, Rognerud CL. Diagnosis of hemoglobinopathies: electrophoresis vs. HPLC. Clin Chimica Acta. 2001;313:187-194
(e) Joutovsky A, Hadzi-Nesic J, Nardi MA. HPLC retention time as a diagnostic tool for hemoglobin variants and hemoglobinopathies: a study of 60,000 samples in a clinical diagnostic laboratory. Clin Chem. 2004;50:1736-1747

(f) Chui DH, Dovr GJ. Sickle cell disease: no longer a single gene disorder. Curr Opin Pediatr. 2001;873:22-27
(g) Lanzkron S, Strouse JJ, Wilson R, et al. Systematic review: Hydroxyurea for the treatment of adults with sickle cell disease. Ann Intern Med. 2008;148:939-955.
(h) Brawley OW, Cornelius LJ, Edwards LR, et al. National Institutes of Health Consensus Development Conference Statement: Hydroxyurea treatment for sickle cell disease. Ann Intern Med. 2008;148:932-938.

Presentations:

(a) Power Point: Hb Variants (with instructor)

Case Studies:

(a) Slides, chromatographs, IEF and histories provided (self-directed)

Review:

(a) Case studies and VII library with Hemoglobinopathy Technical Specialist

Associated Laboratory Demonstrations:

(a) Hemoglobinopathy investigation set-ups
(b) Biorad Variant II chromatography and interpretation (HPLC)
(c) Cation exchange chromatography (HPLC)
(d) Capillary electrophoresis
(e) Morphologic indicators of variant hemoglobins (i.e. sickle cells, etc.)
(f) Unstable Hb testing (isopropanol and heat)
(g) Oxygen affinity testing (P50)
(h) Hb M spectral scan

Module 4: Molecular Diagnostics

Suggested Reading:

(a) Disorders of Hemoglobin: Genetics, Pathophysiology and Clinical Management:
Section six: DNA-Based diagnosis of hemoglobin disorders, pages 941-957; Prenatal diagnosis of and screening for thalassemia and sickle cell disease, pages 958-978.
(b) Weatherall DJ, Clegg JB. Genetic disorders of hemoglobin. Semin Hematol. 1999;36:24-37
(c) Clarke BE, Thein SL. Molecular diagnosis of haemoglobin disorders (review). Clin Lab Haem. 2004;26:159-176
(d) Old JM. Screening and genetic diagnosis of haemoglobin disorders. Blood Rev. 2003;17:43-53
(e) Weatherall DJ The thalassemias: the role of molecular genetics in an evolving global health problem. Am J Hum Genet. 2004;74:385-392
(f) Provan D. Gribben J. Molecular Hematology, 2005: second edition

On-line: "Up-to-Date"

(a) Molecular diagnosis of inherited hemoglobin disorders
(b) Molecular pathology of the thalassemic syndromes

Presentations:

(a) Power Point: Molecular testing (with instructor)

Case Studies: (self – directed)

Associated Laboratory Demonstrations:

(a) DNA Sequencing
(b) Southern hybridization
(c) PCR

Module 5: The Hemolytic Anemias

Is the Patient Hemolysing?

Suggested Reading:

(a) Hematology of Infancy and Childhood. Hemolytic Anemias: Chapter V, Page 519-543
(b) Sackey K. Hemolytic Anemia: part 1. Peds Rev. 1999;20:152-159
(c) Sackey K. Hemolytic Anemia: part 2. Peds Rev. 1999;20:204-208

(d) Dhaliwal G. Hemolytic Anemia. Am Fam Phys. 2004;June 1:1-12. (http.aafp.org/20040601/2599.html)

Handout:

(a) Normocytic Anemia-Hemolytic Anemia

On-line: "Up-to-Date"

(a) Red blood cell survival: Normal values and measurement
(b) Approach to the adult patient with hemolytic anemia

Presentation:

(a) Power Point: Hemolytic anemias (with instructor)

Case Studies:

(a) Slides, stage I results, histories provided (self-directed)

Review:

(a) Hemolytic case studies with Technical Specialist

Associated Laboratory Demonstrations:

(a) Haptoglobin agar gel electrophoresis
(b) Heinz Body analysis
(c) Morphologic indicators of hemolysis
(d) Reticulocyte count - automated and manual

Red Cell Membrane Defects

Suggested Reading:

(a) Gallager PG. Red cell membrane disorders. ASH Education Program. 2005:13-18
(b) Shah S, Vega R. Hereditary spherocytosis. Ped Rev. 2004;25:168-173
(c) Bolton-Maggs PHB et. al. Guidelines for the diagnosis and management of hereditary spherocytosis. Br J Haematol. 2004;126:455-474

On-line: "Up-to-Date"

(a) Hereditary spherocytosis: clinical features, diagnosis, and treatment
(b) Hereditary spherocytosis: mechanism of hemolysis and pathogenesis
(c) Hereditary elliptocytosis: cinical features and diagnosis
(d) Hereditary elliptocytosis: genetics and pathogenesis
(e) Stomatocytosis
(f) Xerocytosis

Associated Laboratory Demonstrations:

(a) Osmotic fragility testing

Hereditary Enzyme Deficiencies

Suggested Readings:

(a) Zanella A et al. Red cell pyruvate kinase deficiency: molecular and clinical aspects. Br J Haematol. 2005;130:11-25
(b) Prachal JT. Red cell enzymes. ASH Education Program. 2005:19-23
(c) Mehta A. Glucose-6-phosphate dehydrogenase deficiency. Balliere's Clin Haematol. 2000;13:21-38
(d) Fiorelli G. Chronic non-sperocytic haemolytic disorders associated with glucose-6-phosphate dehydrogenase variants. Balliere's Clin Haematol 2000;13:39-55

On-line: "Up-to-Date"

(a) Clinical manifestations of glucose-6-phosphate dehydrogenase deficiency
(b) Pyruvate kinase deficiency

Associated Laboratory Demonstrations:

(a) G6PD screen and assay
(b) PK assay
(c) Methemoglobin reductase assay
(d) 5'Nucleotidase screen

(e) Methemoglobin level
(f) Heinz body count

Immune Hemolysis

Suggested Reading:

(a) Rosse WF. Immune-mediated hemolytic anemia. ASH Education Program. 2004;48-62

On-line: "Up-to-Date"

(a) Clinical features and diagnosis of autoimmune hemolytic anemia: warm agglutinins
(b) Clinical features and diagnosis of autoimmune hemolytic anemia: cold agglutinins
(c) Pathogenesis of autoimmune hemolytic anemia: cold agglutinin disease
(d) Pathogenesis of autoimmune hemolytic anemia: warm agglutinins and drugs

Mechanical Hemolysis

Suggested Reading:

(a) Mecozzi G. Intravascular hemolysis in patients with new-generation prosthetic heart valves: a prospective study. J Thoracic Cardiovasc Surg. 2002;123:550-556

On-line: "Up-to-Date"

(a) Extrinsic nonimmune hemolytic anemia due to mechanical damage
(b) Fragmentation hemolysis and hypersplenism
(c) Extrinsic nonimmune hymolytic due to drugs and toxins

Hemolysis Due to Infection

Suggested Reading:

(a) Anand AC, Puri P. Jaundice in malaria. J Gastro Hepatol. 2005;20:1322-1332

On-line: "Up-to-Date"

(a) Anemia in malaria

Associated Laboratory Demonstrations:

(a) Malarial parasite screening and speciation (Parasitology- contact Rose McQueen; 1/2 day needed)

Module 6: Megaloblastic Anemias

Suggested Reading:

(a) Wintrobe:
Chapter 24 - Megaloblastic and nonmegaloblastic macrocytic anemias. pp. 745-780
Chapter 24 - Anemia due to other nutritional deficiencies. pp. 511-514

On-line:"Up-to-Date"

(a) Diagnosis and treatment of vitamin B12 and folic acid deficiency
(b) Etiology and clinical manifestations of vitamin B12 and folic acid deficiency

Module 7: Miscellaneous Anemias

Suggested Reading:

(a) Williams:
Chapter 41 - Pure red cell aplasia. pp. 448-454
Chapter 42 - Anemia of chronic renal failure. pp. 456-460
Chapter 43 - Anemia of endocrine disorders. pp. 462-465
Chapter 44 - The congenital dyserythropoietic anemias. pp. 467-469
Chapter 48 - Anemia associated with marrow infiltration. pp. 516-518
Chapter 68 - Acute blood loss anemia. pp. 704-708
(b) Kapleushnik SH et. al. Clinical and laboratory manifestations of congenital dyserythropoietic anemia type I in young adults. Eur J Haemat 2002;68:170-174
(c) Kostaridou S et. al. Ineffective erythropoiesis underlies the clinical heterogeneity of congenital dyserythropoietic anemia type II (CDA II). Ped Internat 2004;46:274-279

(d) Danise P et al. Flow-cytometric analysis of erythrocytes and reticulcytes in congenital dyserythropoietic anaemia type II (CDA II): value in differential diagnosis with hereditary spherocytosis. Clin Lab Haematol. 2001;23:7-13
(e) Fisch P et. al. Pure red cell aplasia: review. Br J Haematol. 2000:111;1010-1022

On-line: "Up-to-Date"
(a) Diagnosis and treatment of paroxysmal nocturnal hemoglobinuria
(b) Aplastic anemia: prognosis and treatment
(c) Aplastic anemia: Pathogenesis; clinical manifestations and diagnosis
(d) Anemias due to decreased red cell production
(e) Clinical manifestations and diagnosis of the myelodysplastic syndromes

Module 8: Erythrocytosis and Polycythemia

Suggested Reading:
(a) Prchal JT, Kralovics R. Congenital and inherited polycythemia. Current Opin Peds. 2000;12:29-34.
(b) Van Maerken T et al. Familial and congenital polycythemia: a diagnostic approach. J Ped Hematol Oncol. 2004;26:407-416
(c) McMullin MF et al. Guidelines for the diagnosis, investigation and management of polycythaemia/erythrocytosis. Br J Haematol. 2005;130:174-195
(d) Campbell PJ et al. Definition of subtypes of essential thrombocythemia and relation to polycythemia vera based on JAK V617F mutation status: a prospective study. Lancet. 2005;366:1945-1953
(e) Tefferi A. Essential thrombocythemia, polycythemia vera, and myelofibrosis: current management and the prospect of targeted therapy.Am J Hematol. 2008;83 (6);491

On-line: "Up-to-Date"
(a) Diagnostic approach to the patient with polycythemia
(b) Diagnostic approach to the patient with suspected polycythemia vera
(c) Molecular pathogenesis of congenital polycythemic disorders and polycythemia vera

Associated Laboratory Demonstrations:
(a) Erythropoeitin assay
(b) Oxygen disassociation curve (P50 analysis)
(c) JAK2 (V617F) PCR

II. GOALS AND OBJECTIVES:

Medical Expert

Key Competencies: *Physicians are able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-related medical care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice
3. Perform a complete and appropriate assessment of a patient
4. Use preventive and therapeutic interventions effectively
5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Specific Requirements:

Laboratory portion of the rotation

1. Acquire in-depth understanding of the laboratory techniques used in the investigation of red cell disorders
2. Be able to correlate the results of the test performed with the hematological values and arrive at the correct hematological diagnosis
3. Be able to correlate the erythrocyte morphology of the patient's blood film with a hematology diagnosis
4. Acquire in-depth understanding of the molecular techniques used to investigate hemoglobinopathy

syndromes
5. Observe and/or perform all the procedures in the laboratory at least once
6. Interpret and sign the reports in the first few weeks, with the help of the clinical instructor, and subsequently on his/her own

To accomplish these specific objectives, the resident is expected to become familiar with the following:

1. Basic RBC laboratory analyses, RBC morphology, and quality control
2. Assessment of red cell precursors and iron stores.
3 Evaluation of hypochromic anemias (iron deficiency, anemia of chronic disease, atransferrinemia, idiopathic pulmonary hemosiderosis, sideroblastic anemias, porphyrias)
4 Evaluation of hemoglobinopathies (thalassemia minor, intermedia and major, hemoglobin S trait and disease, hemoglobin SC disease, hemoglobin C disease and trait, unstable hemoglobins), including special techniques for measuring or detecting unusual or unstable hemoglobins, and molecular diagnostic testing for hemoglobinopathies
5. Evaluation of immune and nonimmune hemolytic anemias and their laboratory investigations (including haptoglobin determination, Heinz body analysis, osmotic fragility, G6PD screening test, G6PD and PK assays, methemoglobin reductase assays, 5' nucleotidase screens)
6 Disorders associated with fragmentation hemolysis (including testing for urine hemosiderin), chemical hemolysis (methemoglobin determinations), infectious hemolysis (assessment of malaria and other parasites), paroxysmal nocturnal hemoglobinuria
7. Megaloblastic anemias and the laboratory methods used for diagnoses
8. Miscellaneous red cell disorders (pure red cell aplasia, anemia of chronic renal failure, anemia of endocrine disorders, congenital dyserythropoietic anemias, anemia of bone marrow infiltration, acute blood loss anemia)
9. Polycythemia - primary and secondary causes (erythropoietin determination, P50 testing, JAK2 [V617F mutation])
10. Molecular Diagnostics – restriction endonuclease mapping, PCR, DNA sequencing and prenatal diagnosis

These topics are covered in eight learning units, during the 8 week rotation. There are recommended reading lists, as well as self directed and joint morphology teaching sessions. Residents also assess patients with red cell disorders in the outpatient clinics. An in-depth outline of the material to be covered in the teaching sessions is presented at earlier in document.

Clinical portion of the rotation

1. To develop an approach to, and understanding of, outpatient general hematology practice.
2. To refine hematology consultancy skills, which will involve eliciting a thorough and accurate history, focused physical examination, selection of appropriate diagnostic tests, and arranging timely patient follow-up.
3. To develop an approach to the evaluation and management of patients with hemoglobinopathies.

Communicator

Key Competencies: *Physicians are able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about a medical encounter

Specific Requirements:

1. The resident will communicate effectively with both clinical and laboratory staff and collaborate with physicians and other health care professionals
2. During the clinical portion of the rotation the resident will be expected to develop a rapport with their patients. Each resident will be asked to see at least one new patient per clinic, and will be expected to

develop an appropriate therapeutic relationship with that patient and their family that respects diversity and difference e.g. gender, religion, and cultural beliefs. Residents are expected to maintain clear, accurate and appropriate records and effectively present verbal reports of clinical encounters and plans

Collaborator

Key Competencies: *Physicians are able to…*

3. Participate effectively and appropriately in an interprofessional healthcare team
4. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

Specific Requirements:

1. The resident will work with the laboratory staff in a respectful manner to "work through" complex hemoglobinopathy cases, and will use the considerable expertise of the laboratory staff to ensure that patients are provided with a final diagnosis. As the provincial referral laboratory, particularly complex cases can be expected during this rotation.
2. Within the outpatient setting, the resident will be expected to work with outpatient department staff in a respectful manner to ensure that patient care is delivered in the best possible manner.

Manager

Key Competencies: *Physicians are able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Specific Requirements:

1. During the rotation the resident will be expected to provide level-of-training appropriate guidance to the laboratory staff
2. The resident will be expected to assist the laboratory staff in monitoring the appropriateness of requests for laboratory services and will contact referring physicians in cases where requests are clearly inappropriate
3. The resident will be expected to become familiar with principles of quality control and quality assurance.
4. The resident will set priorities and manage time to balance patient care, laboratory activities, educational requirements, and personal life

Health care advocate

Key Competencies: *Physicians are able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that they serve
3. Identify the determinants of health of the populations that they serve
4. Promote the health of individual patients, communities and populations

Specific Requirements:

1. The resident will explore the rationale and strategies for population screening for hemoglobinopathies and thalassemias; in particular, the resident will be expected to develop an understanding of the "pros" and "cons" of population screening
2. The resident will identify opportunities for advocacy, health promotion, and disease prevention with the individuals to whom they provide care
3. Provide documents for patients that describe and outline the nature of their hematologic problem and the recommended treatments and effectively communicate this information to the patient

Scholar

Key Competencies: *Physicians are able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

Specific Requirements:

1. The resident will be expected to complete the course material (see medical expert and specific rotation expectations in this document).
2. The resident will be expected to become and expert in the interpretation of relevant laboratory results.
3. The resident will be expected to "read around" relevant cases and present appropriate strategies for their management.
4. The resident will be expected to learn where relevant resources are, and how they are best accessed.
5. The resident will be expected to present "up-to-date" weekly rounds on topics determined by the faculty. Completion of these rounds will require use of a variety of resources.
6. The resident is expected to attend videoconferences sponsored by the National Canadian Hemoglobinopathies Group

Professional

Key Competencies: *Physicians are able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

Specific Requirements:

1. The resident is expected to be punctual, courteous and act with the best interests of their patients, laboratory staff and others best interests in mind
2. The resident should act in a professional manner, and provide the highest possible quality of care to patients

McMaster University Health Sciences

Adult Hematology Residency Program

IN-TRAINING EVALUATION REPORT FOR THE RED CELL DISORDERS ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	Satisfactory	*Provisional Satisfactory	*Unsatisfactory	*Incomplete
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				
Rotation Supervisor Comments *Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.*				

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - CLINICAL						
a) Demonstrates a good understanding of basic clinical knowledge relevant to rotation, including characteristics and principles of investigation and treatment of red cell disorders, cytopenias, iron metabolism disorders, monoclonal gammopathies, low grade hematologic malignancies, and myeloproliferative disorders.						
b) History and physical examinations are complete, accurate, and well organized.						
c) Selects medically appropriate investigations in a resource effective and ethical manner and is able to interpret the results of these investigations.						
d) Demonstrates proficiency in formulation of differential diagnoses.						
e) Uses an evidence-based approach to decision making.						
f) Uses all pertinent clinical, laboratory information to arrive at complete and accurate clinical decisions.						
g) Demonstrates familiarity with and is able to plan and institute preventative and therapeutic interventions.						
h) Effectively performs a consultation, including well-documented assessments and recommendations.						
i) Seeks appropriate consultation from other health professionals.						
j) Identifies and responds appropriately to ethical situations arising in patient care.						
k) Demonstrates compassionate and patient-centered care.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - PROCEDURES						
a) Bone marrow biopsy and aspirate – is technically proficient, minimizes risks and patient discomfort, and ensures appropriate informed consent is obtained.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL						
a) Demonstrates a good understanding of basic scientific and clinical knowledge relevant to red cell disorders.						
b) Demonstrates an in-depth understanding of the laboratory techniques used in the investigation of red cell disorders; including basic red blood cell laboratory analyses, morphology, and quality control; assessment of red cell precursors; techniques used to investigate hemolytic, hypochromic, normochromic, and megaloblastic anemias; tests used to evaluate polycythemia; and molecular techniques used to investigate hemoglobinopathy syndromes.						
c) Is able to correlate erythrocyte morphology with a hematology diagnosis.						
d) Is able to correlate the results of specialized investigations with hematologic values and arrive at correct hematologic diagnoses.						
e) Selects appropriate follow-up investigations in a resource effective and ethical manner.						
f) Effectively performs appropriate consultation from other health professionals for accurate interpretation of reports.						
g) Has knowledge of rotation-specific laboratory or technical procedures.						
h) Problem solving skills indicate an ability to resolve technical problems.						
i) Demonstrates appropriate knowledge of laboratory results and uses them appropriately in clinical decision making and/or for research purposes.						

Comments

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes a therapeutic relationship with patients and their caregivers. Demonstrates appropriate interviewing skills; communicates well and at an appropriate level with patients, families and other health care professionals.						
b) Provides clear and thorough explanations of diagnosis, investigation and management to patients and their caregivers.						
c) Encourages full participation of the patient and their caregivers in decision-making and management.						
d) Demonstrates sensitivity to the emotional and personal needs of patients and families dealing with these illnesses. Recognizes the importance of patient-centered care.						
e) Demonstrates an understanding of and sensitivity to issues involving disabilities, gender, race and culture when communicating with patients and caregivers.						
f) Able to obtain informed consent.						
g) Prepares accurate, organized and timely written documentation (e.g. consultation letters).						
h) Effectively presents verbal reports of clinical encounters and plans in an accurate, complete and organized fashion.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with laboratory staff and outpatient clinic staff by recognizing and acknowledging their roles and expertise.						
b) Consults and delegates effectively.						
c) Collaborates effectively and constructively with other members of the health care team.						
d) Handles conflict situations well.						
e) Understands issues involving disabilities, gender, race and culture when working with other team members.						
f) Demonstrates flexible leadership skills.						
g) Effective collaborator as assessed by 2 allied health professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases).						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an appreciation of cost-containment and quality assurance programs and applies this to patient care and laboratory management.						
d) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments.						
e) Coordinates the efforts of the laboratory team to provide appropriate clinical testing.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health. Understands the rationale and strategies for population screening for red cell disorders.						
b) Recognizes and responds appropriately in advocacy situations.						
c) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care.						
d) Works with patients and caregivers to obtain needed services for care and on-going family support.						
e) Identifies determinants of health affecting communities and understands the specialist's role to advocate for and to intervene on behalf of the community with respect to biologic, psychosocial, and economic factors that may affect health.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective and ongoing personal learning strategy. Completes the course material.						
b) Understands the principles of life-long learning, helps others to learn by providing guidance and teaching, and by giving or receiving constructive feedback.						
c) Does self-directed learning prior to interactions with colleagues.						
d) Demonstrates an understanding of the importance of research to the practice of clinical medicine and has an understanding of the principles of clinical research.						
e) Demonstrates the skill of contributing to the development of new knowledge by the performance of case reports, original scientific research, or participation in the performance of continuous quality improvement or quality assurance.						
f) Is able to critically appraise medical information. Successfully integrates information from a variety of sources.						
g) Presentations in teaching sessions and/or rounds are well prepared, clear, concise, and make appropriate use of audiovisual aids.						
h) Meets core content knowledge for the rotation.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Demonstrates honesty and integrity (meets commitments, is forthright in interactions with patients, caregivers, and colleague, admits responsibility for errors).						
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory; is aware of personal, family, and cultural influences on patient well-being).						
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of patients and family members).						
d) Demonstrates reliability, responsibility, and conscientiousness (meets deadlines, is punctual, fulfills commitments, monitors patients, provides follow-up).						
e) Takes initiative to additional activities, within limits of knowledge and training.						
f) Demonstrates an understanding of the principles of ethics and applies these in clinical situations. Appreciates ethical dilemmas such as withdrawal of curative treatment, DNR, innovative therapies, disclosure, and consent.						
g) Demonstrates an awareness of own limitations and seeks advice when necessary. Accepts advice and feedback graciously.						
h) Fulfills the medical, legal and professional obligations of the specialty.						
Comments						

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

THROMBOSIS ROTATION
Hamilton Health Sciences Hospitals
(UPDATED JUNE 25, 2009)

I. OVERVIEW

Resident Responsibilities

Clinical Responsibilities:

The primary responsibility of the resident will be to serve as a consultant in the Thrombosis Clinics at the Hamilton Health Sciences Hospitals, including the Henderson General Hospital, the Hamilton General Hospital and the McMaster Medical Centre.

At the Henderson hospital, inpatients and outpatients with suspected venous thromboembolic disease or with other questions relating to the use of antithrombotic therapy for the management of venous or arterial disease are referred to the Thrombosis clinic for diagnosis, treatment and counselling. The resident will be responsible for evaluating these patients, and discussing the management with the attending physician. The majority of the inpatient service involves consultation in patients with cancer or complex medical issues. Usually, residents spend 5 weeks of the 8 week-rotation at the Henderson,

At the Hamilton General Hospital, residents will see inpatient and outpatient consultations. Most of the inpatient referrals will involve thromboembolic problems in cardiovascular and trauma patients. The resident will also attend outpatient clinics that focus on perioperative management of anticoagulant therapy and follow-up of patients on long-term anticoagulation for cardiac disorders. Close interaction with nurses and physicians on the Thrombosis service is expected to maximize clinical service and education opportunities. Usually, residents spend 3 weeks of the 8 week-rotation at the General,

At McMaster Medical Centre, the resident will be participating in outpatient consultations, with a focus on thrombosis issues unique to women. The resident is not expected to provide in-hospital Thrombosis service at this site.

The resident will be responsible for dictating formal consultation letters to the referring physicians and arranging appropriate follow-up or referrals when indicated. Residents handle approximately 20 new outpatient and 10 new inpatient consultations per week.

Educational Responsibilities:

In addition to the clinical work, there are a number of educational activities. These are briefly described below:

(a) McMaster Clinic (½ day clinic weekly): Under the supervision of Drs. Bates, Ginsberg, and Spencer, the resident will provide outpatient consultation. Many of the cases involve thrombosis issues unique to women (e.g., pregnancy-related thrombosis). The resident will learn how to approach and manage cases regarding prophylaxis and treatment.

(b) Resident Presentations (60 minutes once a month): Using a seminar format, the resident will present a topic to the physician and nursing staff. A suggested list of topics to be covered during the two-month rotation is given below but the resident is also encouraged to research areas of personal or recent interest. During these sessions, the basics of critical appraisal and research methodology will be reviewed.

Previous topics:

- Diagnosis of pulmonary embolism (V/Q vs. CTPA)
- Fondaparinux in venous thromboembolism prevention
- Management of severe antithrombin deficiency
- Heparin-induced thrombocytopenia – diagnosis and management
- D-dimer as a predictor of venous thromboembolism recurrence

(c) Regional Research and Educational Meetings (60 minutes weekly): Faculty from the Hamilton Regional Thromboembolism Group (Thromboembolism Services from the four Hamilton area hospitals) will present a topic of recent research or clinical interest. Occasionally, there is an invited speaker.

(d) Clinical Trials Update Sessions (2 hours every three months): These are working sessions in which the progress of ongoing clinical studies is monitored. In addition, new studies, which are at various stages of planning and execution, are also discussed. This session provides the resident with a working knowledge of studies in progress and exposure to the process of study development, execution and analysis.

(e) Clinical Trials Teaching Sessions (2 to 3 hours every three months). Faculty from the four Thromboembolism Services from the Hamilton Health Sciences hospitals will present a topic of recent clinical interest. Occasionally, there is an invited speaker.

(f) Academic Half-Day (½ day weekly). The resident will have no clinical responsibilities on Friday mornings to permit attendance at the Academic Half-Day in Hematology.

(g) Hematology Grand Rounds (1 hour every second week). The resident is expected to attend these rounds, which follow every second Academic Half-Day.

(g) Longitudinal Clinic (½ day weekly).

(h) Core One-on-One sessions (once per week): Each week, the resident arranges to meet a faculty to review a topic in thrombosis (a list of topics and faculty will be provided). This will not be a formal presentation; rather, the resident is expected to have read the literature on the topic and have questions/issues prepared for the faculty member at the meeting.

This table outlines the above educational activities of the resident during the Thrombosis rotation:

<table>
<tr><th></th><th>MONDAY</th><th>TUESDAY</th><th>WEDNESDAY</th><th>THURSDAY</th><th>FRIDAY</th></tr>
<tr><td>0900 – 1000</td><td></td><td></td><td></td><td></td><td rowspan="2">Hematology Academic Half-Day</td></tr>
<tr><td>1000 – 1200</td><td></td><td></td><td></td><td></td></tr>
<tr><td>1200 – 1300</td><td></td><td>Resident Presentations</td><td></td><td>Henderson Clinic meetings</td><td>Hematology Grand Rounds</td></tr>
<tr><td>1300 – 1400</td><td rowspan="4">Thrombosis Clinic with Drs. Bates/Ginsberg/ Spencer (MUMC 3V2 clinic; Yellow section)</td><td></td><td>12:30 – 1:30 Research, Updates and Educational Sessions</td><td></td><td></td></tr>
<tr><td>1400 – 1500</td><td></td><td></td><td></td><td></td></tr>
<tr><td>1500 – 1600</td><td></td><td></td><td></td><td></td></tr>
<tr><td>1600 – 1700</td><td></td><td></td><td></td><td></td></tr>
</table>

On-Call duties

Residents participate in one in four out-of-hospital Thrombosis Service calls at the Henderson and Hamilton General sites. Over the 2-month rotation, two weekends of call coverage and 8 days of weekday coverage are expected. During call, the resident has first call and provides consultation for both inpatient and emergency referrals under the supervision of the attending physician. A large component of the weekend coverage involves the post-operative thromboprophylaxis management of approximately 50 patients on the orthopedic wards.

Call service is not expected at the MUMC site.

Faculty

Henderson Site

1. Dr. Jeffrey Weitz, Professor, Dept. of Medicine, Director, Henderson Research Centre
2. Dr. Clive Kearon, Professor, Dept. of Medicine, Head, Clinical Thrombosis Service, Henderson Hospital
3. Dr. Peter Gross, Associate Professor, Dept. of Medicine; Supervisor, Thrombosis Rotation, Hematology Program; Head, Clinical Thrombosis Service, Henderson Hospital
4. Dr. Shannon Bates, Associate Professor, Dept. of Medicine
5. Dr. Lori-Ann Linkins, Assistant Professor, Dept. of Medicine
6. Dr. Martin O'Donnell, Assistant Professor, Dept. of Medicine

McMaster Site

1. Dr. Fred Spencer, Professor, Dept. of Medicine, Head, Clinical Thrombosis Service, McMaster Medical Centre
2. Dr. Jeffrey Ginsberg, Professor, Dept. of Medicine,
3. Dr. Shannon Bates, Associate Professor, Dept. of Medicine

Hamilton General Site

1. Dr. Sam Schulman, Professor, Dept. of Medicine, Head, Clinical Thrombosis Service, Hamilton General Hospital
2. Dr. John Eikelboom, Associate Professor, Dept. of Medicine
3. Dr. Alex Spyropolous, Associate Professor, Department of Medicine

St. Joseph's Hospital

1. Dr. James Douketis, Associate Professor, Dept. of Medicine, Head, Clinical Thrombosis Service, St. Joseph's Hospital
2. Dr. Mark Crowther, Professor, Dept. of Medicine, Head, Division of Hematology, McMaster University
3. Dr. Wendy Lim, Assistant Professor, Dept. of Medicine
4. Dr. Howard Chan, Assistant Professor, Dept. of Medicine

Resources

The Hamilton Health Sciences Hospitals are major referral centres for thromboembolic diseases. The faculty of the Hamilton Regional Thromboembolism Group has an international reputation for clinical trials and basic science research. Exposure to high-risk patients is extensive since the Henderson is a major regional centre for elective orthopedic surgery and it provides inpatient care to oncology patients referred to the Juravinski Cancer Centre. At McMaster, comprehensive exposure to thrombosis issues unique to women is provided. At the General, thromboembolic diseases related to cardiovascular, cerebrovascular, and trauma conditions are prevalent. At all sites, internet library resources are available 24 hours a day and references can be obtained usually within 24 – 48 hours of the request. The resident has dedicated office space for studying and receives secretarial support. Photocopying and a computer with Internet access are also available to the resident.

Resident Evaluation

Residents are provided with feedback during the rotation concerning their proficiency in managing clinical problems and their performance in informal and formal teaching sessions. Feedback for on-call duties is provided by the faculty member working with the resident, particularly when they share weekend on-call duties. Resident dictations are formally evaluated (see Structured Assessment of Resident Dictation Form).

The resident meets with the rotation supervisor at the mid-point of the rotation to complete a Mid-Unit Evaluation, provide two-way feedback on the rotation, and discuss the goals for the remainder of the rotation. On completion of the rotation, a formal web-based CanMEDS compliant evaluation is completed by the rotation supervisor, with feedback from the other individuals, including allied health professionals (using a Multisource Feedback Form).

Rotation Evaluation

Residents are encouraged to provide feedback on how the rotation and teaching are structured. Resident input has been enthusiastically received. As with all hematology rotations, a anonymous formal evaluation of the rotation is handled by a web-based system. Each teaching faculty is evaluated separately in a similar manner, as for other rotations. Separate from these evaluations, hematology residents have met every 1 – 2 years to compile a collective rotation evaluation, respecting anonymity. With the size of our program, this has been important in maintaining feedback.

II. GOALS AND OBJECTIVES

Medical Expert

Key Competencies: *Physicians are able to…*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-related medical care
2. Establish and maintain clinical knowledge, skills and attitudes appropriate to their practice
3. Perform a complete and appropriate assessment of a patient
4. Use preventive and therapeutic interventions effectively
5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic
6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise

Specific Requirements:

Prevention of Venous Thromboembolic Disease

1. Learn to stratify patients into low, moderate or high-risk categories according to known risk factors for venous thromboembolism
2. Understand the issues unique to providing prophylaxis in women with thromboembolic problems
3. Learn the appropriate use of prophylactic methods, including pharmacologic and mechanical measures, for low, intermediate, and high risk patients
4. Learn to provide perioperative consultation and management advice regarding anticoagulant therapy in patients on long-term anticoagulation or are at high risk of thromboembolic complications

Diagnosis of Venous Thromboembolism

1. Become familiar with the use of clinical prediction models and apply them in diagnosing acute deep venous thrombosis and pulmonary embolism
2. Learn the appropriate use and interpretation of non-invasive and invasive tests for the diagnosis of acute deep venous thrombosis and pulmonary embolism
3. Develop a rational approach to the diagnosis of recurrent venous thrombosis and the post-phlebitic syndrome
4. Learn the limitations of diagnostic testing in special populations, such as pregnant women
5. Understand the limitations of clinical assessment and objective testing in diagnosing acute and recurrent venous thromboembolism and postphlebitic syndrome
6. Learn to diagnose heparin-induced thrombocytopenia

Treatment of Venous Thromboembolic Disease

1. Learn the approach to the treatment of patients presenting with an acute episode of venous thromboembolic disease
2. Learn the indications, contraindications, and side effects of anticoagulants and thrombolytic agents

3. Develop a rational approach to the management of patients with recurrent episodes of venous thromboembolic disease or with other indications for extended therapy
4. Learn to stratify patients with acute venous thromboembolism for out-of-hospital treatment
5. Learn to manage women with thromboembolic disorders during pregnancy and delivery and in the postpartum periods
6. Manage patients with heparin-associated thrombocytopenia
7. Develop an approach to treat complicated patients, e.g., cancer patients with thrombosis, patients with antiphospholipid antibody syndrome
8. Understand how to determine and individualize the optimal duration of anticoagulant therapy
9. Learn how to treat patients with anticoagulant-related bleeding, including the appropriate use of vena caval filters, vitamin K, antifibrinolytic agents, protamine sulfate, and blood products
10. Educate patients and their relatives how to administer subcutaneous injections of heparin

Coronary and Cerebrovascular Disease

1. Develop a rational approach to the primary and secondary prevention of coronary and cerebral ischemia using anticoagulant and antiplatelet therapies
2. Understand the risks and benefits of combining antithrombotic agents in patients with arterial and venous thromboembolic disease

Pathogenesis of Thrombosis

1. Understand the pathogenesis of arterial and venous thrombosis
2. Establish a competent clinical understanding of hemostasis, coagulation cascade and the fibrinolytic systems
3. Understand the principles of laboratory assays in hemostasis and coagulation and learn how to interpret the results in the clinical setting
4. Develop an approach to investigate a patient with hypercoagulable features

Anticoagulant Therapy

1. Become familiar with available anticoagulants used for prevention and treatment of thromboembolic disorders
2. To learn the mechanisms of action, clinical advantages and limitations of various anticoagulants

Communicator

Key Competencies: *Physicians are able to…*

1. Develop rapport, trust and ethical therapeutic relationships with patients and families
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals
3. Accurately convey relevant information and explanations to patients and families, colleagues and other professionals
4. Develop a common understanding on issues, problems and plans with patients and families, colleagues and other professionals to develop a shared plan of care
5. Convey effective oral and written information about a medical encounter

Specific Requirements:

1. Develop skill in the psychosocial aspects of the management of patients with thromboembolic disease
2. Recognize the individual needs of the patients and help maximize their compliance with long-term anticoagulant therapy
3. Learn to educate patients and reassure them about the risks and benefits of anticoagulant therapy
4. Understand the biomedical ethics involved in the investigation and care of the patient with thromboembolic diseases, including the appropriate treatment of patients with religious or other beliefs that preclude the use of “standard medical treatments” such as transfusion products

Collaborator

Key Competencies: *Physicians are able to…*

1. Participate effectively and appropriately in an interprofessional healthcare team

2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

Specific Requirements:

1. Contribute clinically useful thrombosis opinions on patients referred for consultation, including ordering and arranging for specific testing, administering required therapy, and conveying the results of the thrombosis opinion to referring physicians
2. Consult and collaborate with physicians and other health care professionals, and contribute effectively to interdisciplinary team activities within and between hospitals, other health care facilities and collaborative groups

Manager

Key Competencies: *Physicians are able to…*

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
2. Manage their practice and career effectively
3. Allocate finite healthcare resources appropriately
4. Serve in administration and leadership roles, as appropriate

Specific Requirements:

1. Understand and begin to assume basic responsibility for the running of an outpatient thrombosis clinic
2. Demonstrate understanding of cost/benefit ratios of diagnostic and therapeutic interventions, cost containment and efficacy as they relate to quality assurance
3. Ensure timeliness and appropriateness of referrals and follow-up appointments

Health Advocate

Key Competencies: *Physicians are able to…*

1. Respond to individual patient health needs and issues as part of patient care
2. Respond to the health needs of the communities that they serve
3. Identify the determinants of health of the populations that they serve
4. Promote the health of individual patients, communities and populations

Specific Requirements:

1. Demonstrate an appreciation of the health care needs of patients with thromboembolic diseases.
2. Educate patients on the importance of anticoagulant monitoring and the risks of noncompliance
3. Educate patients on the symptoms and signs of complications from their thromboembolic disease and anticoagulant therapy
4. Encourage the promotion of patient involvement in decision-making
5. Identify opportunities for advocacy, health promotion, and disease prevention; including prescribing prophylactic anticoagulants, preparing travel documents for patients, and helping patients obtain Limited Use mediations.

Scholar

Key Competencies: *Physicians are able to…*

1. Maintain and enhance professional activities through ongoing learning
2. Critically evaluate information and its sources, and apply this appropriately to practice decisions
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices

Specific Requirements:

1. Develop a basic understanding of clinical trials research methodology
2. Develop critical appraisal skills specific to the management of patients with thromboembolic diseases
3. Appreciate the practical aspects of clinical trials research, including patient screening and enrolment, process of informed consent, performing structured follow-ups and appropriate documentation

4. Develop the ability to apply the principles of quality assurance to clinical care
5. Demonstrate an effective lecture or presentation

Professional

Key Competencies: *Physicians are able to…*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation
3. Demonstrate a commitment to physician health and sustainable practice

McMaster University Health Sciences

Adult Hematology Residency Program

IN-TRAINING EVALUATION REPORT FOR THROMBOSIS ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	Satisfactory	*Provisional Satisfactory	*Unsatisfactory	*Incomplete
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				
Rotation Supervisor Comments *Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.*				

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - CLINICAL						
a) Demonstrates a good understanding of basic scientific and clinical knowledge of thrombosis, anticoagulants and other treatments for thromboembolism.						
b) History and physical examinations are appropriate, accurate, well-organized, focused on the problem to be addressed.						
c) Selects medically appropriate investigations in a resource effective and ethical manner and is able to interpret the results of these investigations, including computed tomography pulmonary angiography, ventilation-perfusion scanning, venography, ultrasonography and thrombophilia testing.						
d) Demonstrates proficiency in formulation of differential diagnoses in patients presenting with suspected thrombosis.						
e) Uses an evidence-based approach to decision making.						
f) Uses all pertinent clinical, laboratory, and radiologic information to arrive at complete and accurate clinical decisions.						
g) Demonstrates familiarity with and is able to plan and institute preventative and therapeutic interventions, including pharmacologic and mechanical methods.						
h) Recognizes and manages emergency conditions (e.g. unstable PE) resulting in prompt and appropriate treatment. Remains calm in emergency situations, acts in a timely manner, and prioritizes correctly.						
i) Effectively performs a consultation, including well-documented assessments and recommendations.						
j) Seeks appropriate consultation from other health professionals.						
k) Identifies and responds appropriately to ethical situations arising in patient care.						
l) Demonstrates compassionate and patient-centered care.						

Comments

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL						
a) Problem solving skills indicate an ability to resolve technical problems.						
b) Demonstrates appropriate knowledge of laboratory results, their limitations and pitfalls, and uses them appropriately in clinical decision making and/or for research purposes.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes a therapeutic relationship with patients and their caregivers. Demonstrates appropriate interviewing skills; communicates well and at an appropriate level with patients and families.						
b) Provides clear and thorough explanations of diagnosis, investigation and management of venous thromboembolism and anticoagulant therapy to patients and their caregivers.						
c) Encourages full participation of the patient and their caregivers in decision-making and management.						
d) Demonstrates sensitivity to the emotional and personal needs of patients and families dealing with these illnesses. Recognizes the importance of patient-centered care. Develops skills in breaking bad news to families.						
e) Demonstrates an understanding of and sensitivity to issues involving disabilities, gender, race and culture when communicating with patients and caregivers.						
f) Able to obtain informed consent.						
g) Prepares accurate, organized and timely written documentation (including patient notes, discharge summaries, patient letters, inpatient cards, and anticoagulation cards).						
h) Effectively presents verbal reports of clinical encounters and plans in an accurate, complete and organized fashion.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with health professionals by recognizing and acknowledging their roles and expertise.						
b) Consults and delegates effectively.						
c) Collaborates effectively and constructively with other members of the health care team within the service.						
d) Collaborates effectively and constructively with other members of the health care team from consulting services.						
e) Handles conflict situations well.						
f) Understands issues involving disabilities, gender, race and culture when working with other team members.						
g) Demonstrates flexible leadership skills.						
h) Effective collaborator as assessed by at least 2 other health professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with the resident*.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases).						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an appreciation of cost-containment and quality assurance programs and applies this to patient care and laboratory management.						
d) Provides effective patient care in a time-restricted environment.						
e) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments.						
f) Understands the principles of practice management.						
g) Coordinates the efforts of the healthcare team.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients with thromboembolism disorders and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health.						
b) Recognizes and responds appropriately in advocacy situations, including prescribing prophylactic anticoagulants, preparing treatment documents for patients, obtaining Limited Use or Section 8 medications.						
c) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care.						
d) Works with patients and caregivers to obtain needed services for care and on-going family support.						
e) Identifies determinants of health affecting communities and understands the specialist's role to advocate for and to intervene on behalf of the community with respect to biologic, psychosocial, and economic factors that may affect health.						
Comments						

*Rationale for assessment must be provided to support ratings with asterisks.	EXPECTATIONS					
	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective and ongoing personal learning strategy.						
b) Understands the principles of life-long learning and helps others to learn by providing guidance and teaching, and by giving constructive feedback.						
c) Does self-directed learning prior to interactions with colleagues.						
d) Demonstrates an understanding of the importance of research to the practice of clinical medicine and has an understanding of the principles of clinical research.						
e) Demonstrates the skill of contributing to the development of new knowledge by the performance of case reports, original scientific research, or participation in the performance of continuous quality improvement or quality assurance.						
f) Is able to critically appraise medical information. Successfully integrates information from a variety of sources.						
g) Presentations in teaching sessions and/or rounds are well prepared, clear, concise, and make appropriate use of audiovisual aids.						
h) Meets core content knowledge for the rotation.						
Comments						

*Rationale for assessment must be provided to support ratings with asterisks.	EXPECTATIONS					
	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
PROFESSIONAL						
a) Demonstrates honesty and integrity (meets commitments, is forthright in interactions with patients, caregivers, and colleague, admits responsibility for errors).						
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory; is aware of personal, family, and cultural influences on patient well-being).						
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of patients and family members).						
d) Demonstrates reliability, responsibility, and conscientiousness (meets deadlines, is punctual, fulfills commitments, monitors patients, provides follow-up).						
e) Takes initiative to additional activities, within limits of knowledge and training.						
f) Demonstrates an understanding of the principles of ethics and applies these in clinical situations. Appreciates ethical dilemmas such as withdrawal of curative treatment, DNR, innovative therapies, disclosure, and consent.						
g) Demonstrates an awareness of own limitations and seeks advice when necessary. Accepts advice and feedback graciously.						
h) Fulfills the medical, legal and professional obligations of the specialty.						
Comments						

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

TRANSFUSION MEDICINE ROTATION
McMaster University Medical Centre

(UPDATED JUNE 22, 2009)

I. OVERVIEW

The general goal of the Transfusion Medicine rotation is to enable the hematologist in training to acquire the knowledge, procedural skills, and professional attitudes in Transfusion Medicine, directed to effective patient-centered care and so that he/she may better deal with the problems faced by Director of a Blood Bank and/or a Regional Blood Centre. The Hematologist will acquire familiarity with transfusion principles and practices to enable him/her to deal with patients with blood transfusion problems. The areas of knowledge and skills include: serology; transfusion principles and practices; blood utilization and conservation; platelet and white cell immunobiology; allogeneic and autologous transplantation; pediatric transfusion needs; obstetrical and neonatal transfusion issues; stem cell transplantation; transfusion practices for cardiac and vascular surgery; trauma and critical care; neurosurgery; drug-induced cytopenias including heparin-induced thrombocytopenia and glycoprotein IIb/IIIa antagonist-induced thrombocytopenia; hepatic insufficiency; renal transplantation; bone bank; blood donor recruitment; blood collections; blood product manufacturing procedures; donor blood testing procedures; donor blood laboratory processes; blood product distribution and transportation; effective consultation with respect to donor and patient issues; donor and patient education of transfusion practices and process; regulatory issues; and legal opinions. The trainee will also be exposed to and become familiar with basic science and clinical research in the field of Transfusion Medicine and learn to apply critical appraisal skills in assessing this literature. An understanding of ethical dilemmas and how to handle them will also be experienced.

Responsibilities of the Resident

It is expected that the trainee will function as a junior consultant within the regional Transfusion Medicine Service, which provides expertise to all clinical areas using blood products. Accordingly, the resident has supervised responsibility for outpatient clinics, consults for inpatients and other consults relating to transfusion practice.

The trainee will actively participate in weekly teaching rounds, during which essential topics in transfusion medicine are discussed. The resident will participate in weekly sessions within the laboratory to discuss laboratory based transfusion problems. The resident will also attend bi-weekly research meetings of the Transfusion Research Program to gain an understanding of the methodology used in clinical research. The resident is responsible for booking a tour of Canadian Blood Services (contact Jon Fawcett).

On-Call Duties

The transfusion resident participates in the same on-call duties covered by adult hematologists at MUMC. Residents do an average of one evening per week and one weekend per month out-of-hospital call that covers all adult hematology, including hemostasis, nonmalignant and malignant hematology, and bone marrow transplantation. A faculty member is assigned to back-up the resident when the resident is on call. These on-call duties provide the residents with important experience in dealing with urgent and non-urgent adult clinical hematology problems.

Faculty and Instructors

Transfusion Medicine Faculty and staff who participate in the Transfusion Medicine Rotation include the following:

Dr. Ted Warkentin
Dr. John Kelton
Dr. Irwin Walker
Dr. Donnie Arnold
Dr. M. Blajchman
Dr. Kathryn Webert
Nancy Heddle, MSc, FCSMLS(D) (Rotation Supervisor)
Julie DiTomasso, ART
Sandra Fazari, MLT, BSc
Kate Gagliardi, ART, BA
Denise Evanovitch, ART
Connie Lester, ART
Pamela O'Hoski, ART
Anna MacDonald, BSc
Duane Boychuk, MLT, MBA (Manager, Transfusion Medicine Laboratories)

Resources

The Transfusion Medicine Service operates at 4 different sites in the acute care Hamilton Hospitals under the auspices of the Hamilton Regional Laboratory Medicine Program (HRLMP). Over 40,000 blood products are given annually to a diverse patient population including: cardiovascular; surgical; high risk obstetrical; neonatal and rheumatology/oncology patients. Approximately 40-50 progenitor cells transplants are performed each year. The laboratory service is also supported by Technical Specialists in Operations, Education, Regulatory Affairs, and Stem Cells as well as a Transfusion Safety Officer.

A file containing references of important review articles and highlights of major advances in the field of transfusion medicine is available to residents as an academic resource. This resource is updated from time to time to keep abreast with developments in the field. Residents have access to a computer with internet connections in their Resident's Room at McMaster University Medical Centre.

During the rotation, the resident attends a half-day Hemophilia Clinic, as well as 1 half-day nonmalignant hematology clinics with a focus on platelet disorders. The residents typically see a minimum of 4-5 new consults weekly, predominantly in the outpatient clinics; as well as a number of follow-ups. The resident will continue with his/her longitudinal clinic during this rotation.

Inpatient care is generally restricted (0-3 consults per week, excluding on-call experiences). The inpatient facility that provides on-call experiences is the Blood Disorders Unit, Ward 3ZN. The resident will also spend a half day a week at the General site performing consults with Dr. Warkentin.

Weekly Schedule

An example of the weekly schedule is summarized below:

Time	Monday	Tuesday	Wednesday	Thursday	Friday
AM	Informal teaching session - resident presents to faculty and staff MUMC	Lab session[1]	Hemophilia Clinic (Drs. Walker, Webert, Chan and Pai) MUMC 3F	Lab session[1]	Academic Half Day
PM	Non malignant hematology clinic Drs. Kelton and Arnold MUMC 3ZN	One-on-one teaching session with resource[2] Laboratory Meeting with N Heddle (MUMC Lab) Bi monthly Research in Progress Sessions	MTRP Research Meeting Consults with Drs. Warkentin at General site[3]	One-on-one teaching sessions with resource people[2]	Meeting with resource people and reading time

* Note this schedule will be adapted to accommodate the resident's longitudinal clinic.

1. Lab sessions: Each resident will receive 6 bench sessions lasting the entire day, during the first 3 weeks of the rotation. These sessions will occur on Tuesday and Thursday. Days 1 and 2 will consist of ABO, Rh, antibody screening, antibody investigation, phenotyping, and crossmatch. On Days 3 and 4, perinatal/neonatal problems and investigation will be reviewed. Complex problems (warm and/or cold autoimmune problems, transfusion reactions) will be covered on Days 5 and 6.
2. Teaching Sessions: The resident is responsible for scheduling the following teaching sessions: (a) antibody sessions (Connie Lester, 3 hours), (b) specimens, blood products, consent and transfusion reactions (Julie Di Tomasso and/or Sandra Fazari, 3 hours), (c) stem cells (Pam O'Hoski, 2 hours), (d) regulatory affairs and quality assurance in transfusion medicine (Denise Evanovitch/Kate Gagliardi/Anna McDonald, 3 hours), (e) management education (Duane Boychuk, 2 hours), and (f) ITP and platelet immunology (Dr. Donnie Arnold, time will also be spent in the platelet immunology laboratory). Nancy Heddle will schedule Tuesday afternoon transfusion medicine case reviews. The resident should contact Dr. Blajchman to arrange some one-on-one teaching sessions, depending on his availability.
3. The resident should contact Dr. Warkentin to arrange regular meetings and clinical experience at the General site.

Resident Evaluation

Residents are provided with feedback during the rotation concerning their proficiency in understanding the principles of transfusion medicine and managing transfusion problems and their performance in informal and formal teaching sessions. The faculty member working with the resident, in the clinic provides feedback to the resident about their performance in this setting. The Monday morning presentations by the resident are evaluated by all attendees and this information is summarized weekly and provided to the resident to allow for continuous improvement.

The resident meets with the rotation supervisor at the mid-point of the rotation to complete a Mid-Unit Evaluation, provide two-way feedback on the rotation, and discuss the goals for the remainder of the rotation. A formal web-based CanMEDS compliant evaluation is completed at the end of the rotation by the rotation supervisor, with feedback from the other staff members including allied health professionals (using a Multisource Feedback Form). Final evaluations are discussed with the resident.

Evaluation of the Rotation

Residents are encouraged to provide feedback on how the rotation and teaching are structured. Resident input has been enthusiastically received. As with all hematology rotations, a formal anonymous evaluation of the rotation is handled by a web-based system. Teaching faculty are evaluated separately in a similar manner, as for other rotations. Separate from these evaluations, hematology residents have every 1-2 years to compile a collective rotation and faculty evaluation, respecting anonymity. With the size of our program, this has been important in maintaining feedback.

II. GOALS AND OBJECTIVES

Physicians possess a defined body of knowledge, clinical skills, procedural skills and professional attitudes, which are directed to effective patient-centered care. They apply these competencies to collect and interpret information, make appropriate clinical decisions, and carry out diagnostic and therapeutic interventions. They do so within the boundaries of their discipline, personal expertise, the healthcare setting and the patient's preferences and context. Their care is characterized by up-to-date, ethical, and resource-efficient clinical practice as well as with effective communication in partnership with patients, other health care providers and the community. The Role of Medical Expert is central to the function of physicians and draws on the competencies included in the Roles of Communicator, Collaborator, Manager, Health Advocate, Scholar and Professional.

Medical Expert

As Medical Experts, physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centered care. Medical Expert is the central physician Role in the CanMEDS framework.

1. **Key Competency:** Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care

   Enabling Competencies: *Physicians are able to...*

   1.1 Effectively perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional. Function as a junior consultant within the Regional Transfusion Medicine Service, which provides expertise to all clinical areas using blood products. Demonstrate effective transfusion related consultation services with respect to patient care, education and legal opinions. Demonstrate effective consultation services, integrating all of the CanMEDS Roles to provide, and patient-centered care in Transfusion Medicine.
   1.2 Demonstrate effective use of all CanMEDS competencies relevant to the practice of Transfusion Medicine.
   1.3 Identify and appropriately respond to relevant ethical issues related to transfusion issues that arise in patient care. Obtain an introduction to basic principles in Transfusion Medicine. Learn the specific ethical aspects of laboratory testing, transfusion related decisions and clinical research in Transfusion Medicine.
   1.4 Effectively and appropriately prioritize professional duties when faced with multiple patients and problems related to the transfusion service. Effectively and appropriately prioritize patient's transfusion needs when faced with blood and or blood product shortages.
   1.5 Demonstrate compassionate and patient-centered care.
   1.6 Recognize and respond to the ethical dimensions in medical decision-making. Recognize and be aware of the importance of biomedical ethics and their importance in the practice of Transfusion Medicine.
   1.7 Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed. Demonstrate knowledge of medical legal issues relevant to management of the Transfusion Medicine laboratory. Demonstrate knowledge of medical legal issues which affect CBS and are specific to blood donation, blood product manufacturing, and blood product distribution.

2. **Key Competency:** Establish and maintain clinical knowledge, skills and attitudes appropriate to ones practice

Enabling Competencies: *Physicians are able to...*

2.1 Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Transfusion Medicine, both for donors and recipient, including the following:
   a. Principles and interpretation of laboratory procedures in transfusion medicine.
   b. Relevant aspects of blood group serology, genetics, immunology, principles of transfusion therapy, and pathophysiology of adverse effects associated with transfusion.
   c. Laboratory procedures critical to safe transfusion therapy, including quality control, quality essentials, and good manufacturing practices.
   d. Knowledge about blood and blood components including donor selection, method of preparation, testing performed, indications for use, and risks associated with product transfusion.
   e. Strategies of directed donation, autologous donations, and alternatives to transfusion.

2.2 Describe the RCPSC framework of competencies relevant to Transfusion Medicine.

2.3 Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up-to-date, and enhance areas of professional competence in Transfusion Medicine.

2.4 Contribute to the enhancement of quality care and patient safety in the practice of Transfusion Medicine, integrating the available best evidence and best practices. Develop specific knowledge in the laboratory procedures critical to safe transfusion therapy including quality control, quality essentials and good manufacturing practices.

3. Key Competency: Perform a complete and appropriate assessment of a patient

Enabling Competencies: *Physicians are able to...*

3.1 Effectively identify and explore issues to be addressed in a patient encounter, including the patient's context and preferences. Identify and explore a patient's or families religious or other beliefs which may preclude the use of blood products.

3.2. For the purposes of prevention and health promotion, diagnosis and or management, elicit a thorough accurate, concise, blood transfusion history and pregnancy history (where applicable) from the patient.

3.3. For the purposes of prevention and health promotion, diagnosis and/or management, perform a focused physical examination that is relevant and accurate

3.4. Select medically appropriate laboratory tests for the investigation of a transfusion reaction. Select appropriate investigative transfusion medicine laboratory tests to aid in the accurate diagnosis of the patient in order to develop the most appropriate treatment plan.

3.5. Effectively correlate signs, symptoms and other clinical and laboratory information to accurately classify types of transfusion reactions in order to rapidly detect when they are occurring and respond appropriately. Demonstrate effective knowledge in the interpretation of laboratory testing results to generate differential diagnoses and management plan.

4. Key Competency: Use preventive and therapeutic interventions effectively

Enabling Competencies: *Physicians are able to...*

4.1. Implement an effective management plan in collaboration with a patient and their family.

4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to Transfusion Medicine. Demonstrate specific knowledge about the use of blood and blood products through the selection of appropriate blood and or blood product specific to the treatment need of the patient. Demonstrate effective and efficient use of the blood and blood products optimizing patient treatment and minimizing wastage of products. Demonstrate specific knowledge about blood and blood product collection and preparation. This would include: methods of product preparation; CBS transmissible disease testing performed; specific and appropriate indications for use; risks associated with transfusion of the product; calculation of dosage and frequency of administration based on the clinical scenario; and appropriate monitoring (e.g. laboratory tests, diary records)..

4.3. Ensure appropriate informed consent is obtained for therapies involving blood and blood products. Ensure the appropriate informed consent is obtained for clinical research studies and clinical trials in Transfusion Medicine.

4.4. Ensure patients receive appropriate end-of-life care.

5. **Key Competency:** Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic. Obtain a competent clinical understanding of the principles and interpretation of laboratory procedures in Transfusion Medicine and apply the results of these laboratory procedures to patient care.

   Enabling Competencies: *Physicians are able to...*

   5.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to laboratory and clinical practice. Develop a sound knowledge of relevant aspects of blood group serology, genetics, immunology, principles of transfusion therapy and pathophysiology of adverse effects associated with transfusion.
   5.2 Ensure that the patients have completed the appropriate informed consent forms for transfusion or to be part of a Transfusion Medicine Research Study.
   5.3 Appropriately document and disseminate up-to date and relevant information related to blood and or blood product transfusions and their outcomes.
   5.4 Ensure adequate follow-up is arranged for patients receiving blood and or blood product transfusions.

6. **Key Competency:** Seek appropriate consultation from other health professionals, recognizing the limits of their expertise.

   Enabling Competencies: *Physicians are able to...*

   6.1 Demonstrate insight into ones own limitations of expertise via self-assessment. Demonstrate insight into their limitations and proficiencies in understanding the principles of Transfusion Medicine and managing transfusion problems.
   6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care.
   6.3 Arrange appropriate follow-up care services for a patient and their family.

Communicator

As Communicators, physicians effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

Physicians enable patient-centered therapeutic communication through shared decision-making and effective dynamic interactions with patients, families, caregivers, other professionals, and important other individuals. The competencies of this Role are essential for establishing rapport and trust, formulating a diagnosis, delivering information, striving for mutual understanding, and facilitating a shared plan of care. Poor communication can lead to undesired outcomes, and effective communication is critical for optimal patient outcomes. The application of these communication competencies and the nature of the doctor-patient relationship vary for different specialties and forms of medical practice.

1. **Key Competency:** Develop rapport, trust, and ethical therapeutic relationships with patients and families

   Enabling Competencies: *Physicians are able to...*

   1.1. Recognize that being a good communicator is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence and improved clinical outcomes.
   1.2 Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy. Establish good rapport with the transfusion medicine laboratory staff.
   1.3. Respect patient confidentiality, privacy and autonomy.
   1.4. Listening effectively to the patient's needs concerning their medical condition, and their ideas about blood transfusion. Obtain and synthesize relevant history information from patients/families/communities.
   1.5 Be aware and responsive to nonverbal cues.
   1.6 Effectively facilitate a structured clinical encounter.

2. **Key Competency:** Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals

Enabling Competencies: *Physicians are able to...*

2.1 Gather information about a disease, but also about a patient's beliefs, concerns, expectations and illness experience. Obtain a thorough history of any blood or blood product transfusion history and where applicable a history of any pregnancy(ies). Understand the biomedical ethics involved in the provision of transfusion therapy including appropriate treatment of patients whose families hold religious or other beliefs that preclude the use of blood products.
2.2 Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals.

3. Key Competency: Accurately convey relevant information and explanations to patients and families, colleagues and other professionals

Enabling Competencies: *Physicians are able to...*

3.1 Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable, encourages discussion and participation in decision-making. Communicate effectively and discuss appropriate information about transfusion strategies with patients and families, other members of the health care team, transfusion medicine laboratory staff, and other organizations involved in transfusion practice (blood supplier CBS) strategies include: directed donation; autologous donations and alternatives to transfusion.

4. Key Competency: Develop a common understanding on issues, problems and plans with patients, families, and other professionals to develop a shared plan of care

Enabling Competencies*: Physicians are able to...*

4.1 Effectively identify and explore problems to be addressed from a patient encounter, including the patient's context, responses, concerns, and preferences.
4.2 Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making.
4.3 Encourage discussion, questions, and interaction in the encounter.
4.4 Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care for their transfusion needs.
4.5 Effectively address challenging communication issues such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding Understand patients and family individual and religious views concerning blood transfusions, while working to develop a sound plan of optimal care.

5. Key Competency: Convey effective oral and written information about a medical encounter

Enabling Competencies: *Physicians are able to...*

5.1 Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans. Order appropriate blood products following correct procedures (electronic/written). Clearly and accurately convey any urgency or special product needs to the transfusion medicine laboratory.
5.2 Effectively present verbal reports of clinical encounters and plans. Convey effectively information surrounding the transfusion needs and transfusion related issues of patients in their care through verbal presentations and written clinical reports.
5.3 When appropriate, effectively present medical information to the public or media about a transfusion medicine issues: may include recalls, withdrawals, etc.

Collaborator

As Collaborators, physicians effectively work within a healthcare team to achieve optimal patient care.

Physicians work in partnership with others who are appropriately involved in the care of individuals or specific groups of patients. This is increasingly important in a modern multiprofessional environment, where the goal of patient-centered care is widely shared. Modern healthcare teams not only include a group of professionals working closely together at one site, such as a ward team, but also extended teams with a variety of perspectives and skills, in multiple locations. It is therefore essential for physicians to be able to collaborate

effectively with patients, families, and an inter-professional team of expert health professionals for the provision of optimal care, education and scholarship.

1. **Key Competency:** Participate effectively and appropriately in an inter-professional healthcare team

   Enabling Competencies: *Physicians are able to...*

   1.1 Clearly describe their roles and responsibilities to other professionals.
   1.2 Describe the roles and responsibilities of other professionals within the Transfusion Medicine health care team. Describe the roles and responsibilities of the professionals within the health care teams which collaborate in order to obtain, prepare, and provide blood and blood products to the patient.
   1.3 Recognize and respect the diversity of roles, responsibilities and competences of other professionals in relation to their own.
   1.4 Work with others to assess, plan, provide and integrate care for individual patients (or groups of patients). Consult effectively with other physicians, the CBS, transfusion medicine laboratory staff, and health care professionals.
   1.5 Where appropriate, work with others to assess, plan, provide and review other tasks, such as research problems, educational work, program review or administrative responsibilities. Contribute effectively to other interdisciplinary team activities.
   1.6 Participate effectively in inter-professional team meetings; to include the hemophiliac clinic and non malignant hematology clinics that focus on platelet disorders.
   1.7 Enter into interdependent relationships with other professions for the provision of quality care. Contribute clinically useful hematological opinions on patients referred for consultation, including ordering and arranging for specific testing, administering required transfusion therapy, and conveying the results of the hematological opinion to referring physicians.
   1.8 Describe the principles of Transfusion Medicine team dynamics including the Blood Supplier, the clinical service and the laboratory and Clinical Transfusion Research group.
   1.9 Respect team ethics, including confidentiality, resource allocation and professionalism.
   1.10 Where appropriate, demonstrate leadership in a healthcare team.

2. **Key Competency:** Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict

   Enabling Competencies: *Physicians are able to...*

   2.1 Demonstrate a respectful attitude towards other colleagues and members of an inter-professional team.
   2.2 Work with other professionals to prevent conflicts. Understand interdisciplinary activities that relate to and impact on the Transfusion Service i.e. blood centers, Transfusion Committee, Hemophilia Clinic, etc.
   2.3 Employ collaborative negotiation to resolve conflicts.
   2.4 Respect differences, misunderstandings and limitations in other professionals.
   2.5 Recognize one's own differences, misunderstanding and limitations that may contribute to interprofessional tension.
   2.6 Reflect on inter-professional team function.

Manager

As Managers, physicians are integral participants in healthcare organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the healthcare system.

Physicians interact with their work environment as individuals, as members of teams or groups, and as participants in the health system locally, regionally or nationally. The balance in the emphasis among these three levels varies depending on the nature of the specialty, but all specialties have explicitly identified management responsibilities as a core requirement for the practice of medicine in their discipline. Physicians function as Managers in their everyday practice activities involving co-workers, resources and organizational tasks, such as care processes, and policies as well as balancing their personal lives. Thus, physicians require the ability to prioritize, effectively execute tasks collaboratively with colleagues, and make systematic choices when allocating scarce healthcare resources. The CanMEDS Manager Role describes the active engagement of all physicians as integral participants in decision-making in the operation of the healthcare system.

1. **Key Competency:** Participate in activities that contribute to the effectiveness of their healthcare organizations and systems

   Enabling Competencies: *Physicians are able to...*

   1.1 Work collaboratively with others in the Transfusion Medicine Service. Contribute to the management of complex patients cared for by a multi-disciplinary health care team. Work effectively with and efficiently in a health care organization.
   1.2 Participate in systemic quality process evaluation and improvement, such as patient safety initiatives such as error reporting; adverse event surveillance etc. Utilize information technology to optimize patient care, life-long learning and other activities.
   1.3 Describe the structure and function of the healthcare system as it relates to Transfusion Medicine (Hospital and blood supplier), including the roles of physicians.
   1.4 Describe principles of financing blood products in Canada, and budgeting and organizational funding for the Transfusion Medicine Laboratory. Allocate finite health care resources wisely.

2. **Key Competency:** Manage their practice and career effectively

   Enabling Competencies: Physicians are able to...

   2.1 Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life.
   2.2 Understand the management of a practice including finances and human resources issues.
   2.3 Implement processes to ensure personal practice improvement.
   2.4 Employ information technology appropriately for patient care.

3. **Key Competency:** Allocate finite healthcare resources appropriately

   Enabling Competencies: *Physicians are able to…*

   3.1 Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care
   3.2 Apply evidence and management processes for cost-appropriate care. Demonstrate understanding of cost/benefit ratios of diagnostic and therapeutic transfusion interventions, cost containment and efficacy as they relate to quality assurance. Demonstrate understanding of cost/benefit ratios of diagnostic and therapeutic interventions, cost containment and efficacy as they relate to quality assurance.

4. **Key Competency:** Serve in administration and leadership roles on the Transfusion Medicine Service, as appropriate

   Enabling Competencies*: Physicians are able to...*

   4.1 Chair or participate effectively in committees and meetings. Participate in Transfusion Committee meetings, research meeting and Transfusion Medicine Operations Meetings.
   4.2 Lead or implement a change related to the Transfusion Medicine Laboratory Service.
   4.3 Plan relevant elements of health care delivery (e.g., work schedules). Understand ensuring quality control, introduction and evaluation of new tests, ensuring that available tests are performed for the right reasons in the right patients, managing inventory control of blood and blood products.

Health Care Advocate

As Health Advocates, physicians responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

Physicians recognize their duty and ability to improve the overall health of their patients and the society they serve. Doctors identify advocacy activities as important for the individual patient, for populations of patients and for communities. Individual patients need physicians to assist them in navigating the healthcare system and accessing the appropriate health resources in a timely manner. Communities and societies need physicians' special expertise to identify and collaboratively address broad health issues and the determinants of health. At this level, health advocacy involves efforts to change specific practices or policies on behalf of those served. Framed in this multi-level way, health advocacy is an essential and fundamental component of health promotion.

Health advocacy is appropriately expressed both by individual and collective actions of physicians in influencing public health and policy.

1. **Key Competency:** Respond to individual patient health needs and issues as part of patient care

   Enabling Competencies: *Physicians are able to...*

   1.1 Identify the transfusion therapy needs of an individual patient. Identify the important determinants of health affecting patients. Demonstrate an appreciation of the health care needs of patients who require transfusion therapy and patients who refuse transfusion therapy.
   1.2 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care. Recognize and respond to those issues where advocacy is appropriate. Contribute effectively to improved health of patients and communities.

2. **Key Competency:** Respond to the health needs of the communities that they serve

   Enabling Competencies: *Physicians are able to...*

   2.1 Describe the practice communities that they serve.
   2.2 Identify opportunities for advocacy, health promotion and disease prevention in the communities that they serve, and respond appropriately.
   2.3 Appreciate the possibility of competing interests between the communities served and other populations.

3. **Key Competency:** Identify the determinants of health for the populations that they serve

   Enabling Competencies: *Physicians are able to...*

   3.1 Identify the determinants of health of the populations, including barriers to access to care and resources such as treatment with erythropoietin, autologous blood donation and blood salvage techniques.
   3.2 Identify vulnerable or marginalized populations within those served and respond appropriately. Encourage the promotion of patient/family in decision-making related to transfusion therapy.

4. **Key Competency:** Promote the health of individual patients, communities, and populations

   Enabling Competencies: *Physicians are able to...*

   4.1 Describe an approach to implementing a change in a determinant of health related to patients who require transfusion therapy.
   4.2 Describe how public policy impacts on the provision of transfusion therapy.
   4.3 Identify points of influence in the blood transfusion system and its structure.
   4.4 Describe the ethical and professional issues inherent in transfusion practice, including altruism, social justice, autonomy, integrity and idealism.
   4.5 Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper as it relates to transfusing practice.
   4.6 Describe the role of the medical profession in advocating collectively for safety or transfusion practice. Encourage the provision of appropriate information about transfusion therapy to patients to ensure that informed consent for transfusion is practiced. Understand the role of regulator requirements in transfusion practice.
   4.7 Prepare documents for patients (e.g. hemophilia treatment cards, letters for patients with other bleeding disorders) that describe and outline the nature of the patient's bleeding problem and the recommended treatments. Demonstrate an ability to effectively communicate this information to the patient.

Scholar

As Scholars, physicians demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge.

Physicians engage in a lifelong pursuit of mastering their domain of expertise. As learners, they recognize the need to be continually learning and model this for others. Through their scholarly activities, they contribute to the

creation, dissemination, application and translation of medical knowledge. As teachers, they facilitate the education of their students, patients, colleagues, and others.

1. **Key Competency:** Maintain and enhance professional activities through ongoing learning

   Enabling Competencies: *Physicians are able to...*

   1.1 Describe the principles of maintenance of competence.
   1.2 Describe the principles and strategies for implementing a personal knowledge management system in transfusion medicine. Develop, implement and monitor a personal continuing education strategy.
   1.3 Recognize and reflect learning issues in practice.
   1.4 Conduct a personal practice audit.
   1.5 Pose an appropriate learning question.
   1.6 Access and interpret the relevant evidence.
   1.7 Integrate new learning into practice.
   1.8 Evaluate the impact of any change in practice.
   1.9 Document the learning process. Through the use of the “learning journal” document the learning progress in Transfusion Medicine.

2. **Key Competency:** Critically evaluate medical information and its sources, and apply this appropriately to practice decisions

   Enabling Competencies: *Physicians are able to...*

   2.1 Describe the principles of critical appraisal.
   2.2 Critically appraise retrieved evidence in the Transfusion Medicine field in order to address a clinical question. Develop critical appraisal skills for evaluating transfusion literature related to causation therapy, harm, diagnosis and evaluation of diagnostic tests.
   2.3 Integrate critical appraisal conclusions into clinical care. Critically appraise sources of medical information.

3. **Key Competency:** Facilitate the learning of patients, families, students, residents, other health professionals, the public and others, as appropriate

   Enabling Competencies: *Physicians are able to...*

   3.1 Describe principles of learning relevant to Transfusion Medicine.
   3.2 Collaboratively identify the learning needs and desired learning outcomes of others.
   3.3 Select effective teaching strategies and content to facilitate others’ learning. Contribute to the education of education of colleagues, students, residents and other health care workers.
   3.4 Demonstrate an effective lecture or presentation.
   3.5 Assess and reflect on a teaching encounter.
   3.6 Provide effective feedback.
   3.7 Describe the principles of ethics with respect to teaching.

4. **Key Competency:** Contribute to the development, dissemination, and translation of new knowledge and practices. Contribute to the education of education of colleagues, students, residents and other health care workers

   Enabling Competencies: *Physicians are able to...*

   4.1 Describe the principles of research and scholarly inquiry Develop a method to identify current literature related to Transfusion Medicine.
   4.2 Describe the principles of research ethics.
   4.3 Pose a scholarly question.
   4.4 Conduct a systematic search for evidence.
   4.5 Select and apply appropriate methods to address the question.
   4.6 Appropriately disseminate the findings of a study.

Professional

As Professionals, physicians are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

Physicians have a unique societal role as professionals who are dedicated to the health and caring of others. Their work requires the mastery of a complex body of knowledge and skills, as well as the art of medicine. As such, the Professional Role is guided by codes of ethics and a commitment to clinical competence, the embracing of appropriate attitudes and behaviors, integrity, altruism, personal well-being, and to the promotion of the public good within their domain. These commitments form the basis of a social contract between a physician and society. Society, in return, grants physicians the privilege of profession-led regulation with the understanding that they are accountable to those served.

1. **Key Competency:** Demonstrate a commitment to their patients, profession, and society through ethical practice

   Enabling Competencies: Physicians are able to...

   1.1 Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect and altruism; display attitude consistent with professionalism; exhibit appropriate personal and interpersonal professional behavior.
   1.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence; exhibit commitment to patients, their profession and society through ethical practice.
   1.3 Recognize and appropriately respond to ethical issues encountered in practice. Practice medicine ethically consistent with ethical obligations of a physician.
   1.4 Appropriately manage conflicts of interest.
   1.5 Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law.
   1.6 Maintain appropriate relations with patients.

2. **Key Competency:** Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation

   Enabling Competencies: *Physicians are able to...*

   2.1 Appreciate the professional, legal and ethical codes of practice.
   2.2 Fulfill the regulatory and legal obligations required of current practice.
   2.3 Demonstrate accountability to professional regulatory bodies.
   2.4 Recognize and respond to others' unprofessional behaviours in practice.
   2.5 Participate in peer review. Recognize self-limitations and demonstrate insight into his/her limitations of expertise in transfusion medicine by self assessment.

3. **Key Competency:** Demonstrate a commitment to physician health and sustainable practice

   Enabling Competencies*: Physicians are able to...*

   3.1 Balance personal and professional priorities to ensure personal health and a sustainable practice.
   3.2 Strive to heighten personal and professional awareness and insight.
   3.3 Recognize other professionals in need and respond appropriately.

IN-TRAINING EVALUATION REPORT FOR TRANSFUSION MEDICINE ROTATION

Name of Person Evaluated: _____

For Rotation Dates: _____ **to** _____

Form Completed by: _____

	ASSESSMENT			
*Rationale for assessment must be provided to support ratings with asterisks.	Satisfactory	*Provisional Satisfactory	*Unsatisfactory	*Incomplete
OVERALL ASSESSMENT TO BE COMPLETED BY ROTATION SUPERVISOR				
a) ROTATION SUPERVISOR, please characterize this resident's overall performance during this rotation:				

Rotation Supervisor Comments

Describe resident strengths, weaknesses, and suggestions for improvement. The rationale for unsatisfactory assessments should be detailed here or in appended letter.

Was a mid-unit evaluation provided? _____ **Yes** _____ **No**

Was performance at mid-unit evaluation satisfactory? _____ **Yes** _____ **No**

*(A **formal** mid-unit evaluation **must** be provided where there are concerns about resident performance. If performance was not satisfactory at mid-unit, documentation of this evaluation must be attached.)*

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - CLINICAL						
a) Demonstrates a good understanding of basic science relevant to Transfusion Medicine.						
b) Demonstrates a good understanding of clinical knowledge relevant to Transfusion Medicine.						
c) History and physical examinations are complete, accurate, and well organized.						
d) Selects medically appropriate investigations in a resource effective and ethical manner and is able to interpret the results of these investigations.						
e) Demonstrates proficiency in formulation of differential diagnoses.						
f) Uses an evidence-based approach to decision making.						
g) Uses all pertinent clinical, laboratory, and radiologic information to arrive at complete and accurate clinical decisions.						
h) Demonstrates familiarity with and is able to plan and institute preventative and therapeutic interventions.						
i) Recognizes and manages emergency conditions (extremely ill patient) resulting in prompt and appropriate treatment. Remains calm in emergency situations, acts in a timely manner, and prioritizes correctly.						
j) Effectively performs a consultation, including well-documented assessments and recommendations.						
k) Seeks appropriate consultation from other health professionals.						
l) Identifies and responds appropriately to ethical situations arising in patient care.						
m) Demonstrates compassionate and patient-centered care.						

MEDICAL EXPERT (CONTINUED)

Comments

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT - PROCEDURES						
a) ABO grouping and Rh Typing – able to perform this test and understands the rationale behind the procedure and the clinical relevance of the test.						
b) Indirect antiglobulin test (IAT) – able to perform an IAT and understands the indications for its use (antibody screening, crossmatching, eluate studies, phenotyping, etc.).						
c) Direct antiglobulin test (DAT) – able to perform a DAT and understands the indications for its use (antibody screening, crossmatching, eluate studies, phenotyping, etc.)						
d) Screen for Fetal-Maternal Bleeds – able to interpret a Kleihauer/Neirhaus test including an assessment of the quantity of fetal cells and the clinical/therapeutic implications of the results.						
e) Apheresis – understand the procedure, technology and indications for therapeutic apheresis.						
f) Blood product administration – observes and understand all aspects of blood administration including administration sets, filters, clerical checks, and rates, etc.						

MEDICAL EXPERT – PROCEDURES (CONTINUED)

Comments

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL						
a) Is proficient in rotation-specific laboratory or technical procedures used in Transfusion Medicine.						
b) Problem solving skills indicate an ability to resolve technical problems.						
c) Problem solving skills indicated by the ability to resolve case problems in transfusion medicine and understand the implications of the findings for transfusion/clinical management of the patient.						
d) Demonstrates appropriate knowledge of laboratory results and uses them appropriately in clinical decision making and/or for research purposes.						
e) Understand the various blood products available including the method of preparation, appropriate indications and expected clinical impact.						
f) Understands the process and rationale for the selection of blood donors and the testing performed on blood donations to ensure safety.						
g) Demonstrates knowledge of the adverse effects associated with the transfusion of blood and blood components.						
h) Demonstrates a knowledge of the concept and certain key elements of good manufacturer's practice (GMP) as it pertains to the transfusion service.						
i) Demonstrates appropriate knowledge of prenatal testing and management and diagnostic testing, treatment and prevention of HDNB.						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MEDICAL EXPERT – LABORATORY AND/OR TECHNICAL (CONTINUED)						
a) Demonstrates an understanding of the diagnostic testing for and management of immune mediated hemolysis.						
b) Demonstrates an understanding of the laboratory aspects of Stem Cell Transplantation including indications, laboratory techniques, and transfusion support.						
c) Demonstrates an understanding of techniques used in Immunology to quantitate and identify various immunoglobulins.						
d) Demonstrates an understanding of techniques used for HLA typing and their relevance to transfusion practices.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
COMMUNICATOR						
a) Establishes a therapeutic relationship with patients and their caregivers. Demonstrates appropriate interviewing skills; communicates well and at an appropriate level with patients and families.						
b) Provides clear and thorough explanations of diagnosis, investigation and management to patients and their caregivers.						
c) Encourages full participation of the patient and their caregivers in decision-making and management.						
d) Demonstrates sensitivity to the emotional and personal needs of patients and families dealing with these illnesses. Recognizes the importance of patient-centered care. Develops skills in breaking bad news to families.						
e) Demonstrates an understanding of, and sensitivity to, issues involving disabilities, gender, race and culture when communicating with patients and caregivers.						
f) Able to obtain informed consent.						
g) Prepares accurate, organized and timely written documentation (including patient notes, discharge summaries and patient letters).						
h) Effectively presents verbal reports of clinical encounters and plans in an accurate, complete and organized fashion.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently meets	N/A or unable to assess
COLLABORATOR						
a) Interacts effectively with health professionals by recognizing and acknowledging their roles and expertise.						
b) Consults and delegates effectively.						
c) Collaborates effectively and constructively with other members of the health care team.						
d) Handles conflict situations well.						
e) Understands issues involving disabilities, gender, race and culture when working with other team members.						
f) Demonstrates flexible leadership skills.						
g) Effective collaborator as assessed by 2 allied health professionals using the Multisource Feedback Form. *Remember to forward the original forms to the Program Director's office after reviewing with resident.*						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
MANAGER						
a) Understands and makes effective use of information technology for provision of health care (e.g. methods for searching medical databases).						
b) Demonstrates awareness of and makes cost effective use of health care resources based on sound judgment and, where possible, evidence–based medicine.						
c) Demonstrates an appreciation of cost-containment and quality assurance programs and applies this to patient care and laboratory management.						
d) Sets realistic priorities and uses time effectively in order to optimize professional performance. Balances professional and personal commitments.						
e) Understands the principles of practice management.						
f) Coordinates the efforts of the healthcare team.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
HEALTH ADVOCATE						
a) Identifies determinants of health affecting patients and understands the specialist's role to advocate for and to intervene on behalf of patients with respect to biologic, psychosocial, and economic factors that may affect health.						
b) Recognizes and responds appropriately in advocacy situations.						
c) Demonstrates and promotes active involvement of patients and caregivers in medical decision-making and comprehensive care.						
d) Works with patients and caregivers to obtain needed services for care and on-going family support.						
e) Identifies determinants of health affecting communities and understands the specialist's role to advocate for and to intervene on behalf of the community with respect to biologic, psychosocial, and economic factors that may affect health.						
Comments						

	EXPECTATIONS					
*Rationale for assessment must be provided to support ratings with asterisks.	*Rarely meets	*Inconsistently meets	Generally meets	Sometimes/often exceeds	Consistently exceeds	N/A or unable to assess
SCHOLAR						
a) Demonstrates an understanding of and a commitment to the need for continuous learning. Develops an effective and ongoing personal learning strategy.						
b) Understands the principles of life-long learning and helps others to learn by providing guidance and teaching, and by giving constructive feedback.						
c) Does self-directed learning prior to interactions with colleagues.						
d) Demonstrates an understanding of the importance of research to the practice of clinical medicine and has an understanding of the principles of clinical research.						
e) Demonstrates the skill of contributing to the development of new knowledge by the performance of case reports, original scientific research, or participation in the performance of continuous quality improvement or quality assurance.						
f) Is able to critically appraise medical information. Successfully integrates information from a variety of sources.						
g) Meets core content knowledge for the rotation.						
h) Presentations at weekly sessions are well prepared, clear, concise, make appropriate use of audiovisual aids and demonstrate an ability to synthesize and convey information effectively.						
Comments						

SCHOLAR (CONTINUED)

RATINGS FOR WEEKLY PRESENTATIONS	SCORE 1 No	2	3	4	5 Yes
• The session was interesting.					
• There was ample opportunity for questions.					
• Questions were answered clearly.					
• The speaker was easily heard.					
• The session was well-organized.					
• The material was clearly presented.					
• The topic was adequately researched.					
• The objectives of the session were clearly formulated.					

Comments

	EXPECTATIONS		
*Rationale for assessment must be provided to support ratings with asterisks.	***Unacceptable**	***Some concerns**	**Acceptable**
PROFESSIONAL			
a) Demonstrates honesty and integrity (meets commitments; is forthright in interactions with patients, caregivers, and colleagues; admits responsibility for errors).			
b) Demonstrates respect for diversity (treats all persons with respect and regard for their individual worth and dignity; is fair and nondiscriminatory; is aware of personal, family, and cultural influences on patient well-being).			
c) Demonstrates compassion and empathy (listens attentively and responds humanely to the concerns of patients and family members).			
d) Demonstrates reliability, responsibility, and conscientiousness (meets deadlines, is punctual, fulfills commitments, monitors patients, provides follow-up).			
e) Takes initiative to do additional activities, within limits of knowledge and training.			
f) Demonstrates an understanding of the principles of ethics and applies these in clinical situations. Appreciates ethical dilemmas such as withdrawal of curative treatment, DNR, innovative therapies, disclosure, and consent.			
g) Demonstrates an awareness of own limitations and seeks advice when necessary. Accepts advice and feedback graciously.			
h) Fulfills the medical, legal and professional obligations of the specialty.			
Comments			

General Comments

Use this space to define any other competencies or describe additional strengths and weaknesses as required.

Leave taken by resident (number of weekdays) during this rotation, excluding statutory holidays, leave in lieu of working statutory holiday(s), and 5 leave days entitlement over the Christmas/New Year period.

Vacation: _____

Conference: _____

Certification Exam: _____

Floating Holiday: _____

Educational Activities

Academic Half-Day in Hematology

Each Friday morning, residents are excused from their clinical duties to attend a morning devoted to education (9:30 am to 11:30 am). Attendance at Academic Half-Days is compulsory for all residents. Academic Half-Day is organized by the residents (Chief Resident) with oversight by the Program Director using the curriculum outline below. Faculty are invited to present at the Academic Half-Day in their area of expertise. In addition to core hematologic topics included under the Medical Expert CanMEDS competency, several sessions designed to satisfy the requirement for teaching of the Collaborator, Communicator, Health Advocate, Manager, Scholar, and Professional domains are also included.

Two Year Curriculum for Academic Half-Day in Hematology

Non-Medical Expert Content

- Introduction to the wards and ward resources
- Morphology (introduction to the microscope)
- Resources for residents under stress
- Resident research & professionalism for residents
- Clinical skills – procedures and procedure log
- Biostatics and epidemiology
- Critical appraisal
- Manager (e.g. practice management, laboratory management issues, information technology, career management, community haematology career, finding a mentor, how to network, contract negotiator)
- Collaborator (e.g. communication with other health professionals, conflict resolution)
- Communicator (e.g. breaking bad news, discussing termination of curative therapy, disclosing medical errors, etc.)
- Health Advocate (e.g. drug access, Third World initiatives, etc)
- Scholar (e.g. presenting skills, abstract and grant writing, dealing with manuscript rejection, quality improvement)
- Professional (e.g. CV workshop, ethical issues in hematology, ethics of publication)

Core Medical Expert Content

<u>Cell Diagnostics</u>

- Morphology review
- Flow cytometry and important cell markers
- Cytogenetics and molecular genetics

<u>Coagulation</u>

- Overview of coagulation and fibrinolysis
- Practical coagulation lab clinical problems
- From normal to abnormal hemostasis
- Antiplatelet agents and anticoagulants
- Hemophilias
- Management of the bleeding patient
- Disorders of platelet function and number
- ITP
- DIC/TTP-HUS
- Platelet glycoproteins and platelet biology
- Von Willebrand's disease

Two Year Curriculum for Academic Half-Day in Hematology (Continued)

Core Content (Continued)

General Hematology

- Hematologic emergencies
- The HLA system
- Stem biology and hematopoietic growth factors
- Hemachromatosis and iron metabolism
- Macrocytic anemia
- Infectious disease in haematology
- Hematologic considerations in the renal patient
- HIV and hematologic changes

General Hematology (Continued)

- Leukopenia and leukocytosis
- Acquired and congenital aplasia
- Myeloproliferative disorders – polycythemia, essential thrombocytosis, myelofibrosis
- Myelodysplasia
- Palliative Care

Malignant Diseases

- Acute myeloid leukemia
- Acute promyelocytic leukemia
- Acute lymphoid leukemia
- Chronic myelogenous leukemia
- Chronic lymphocytic leukemia
- Multiple myeloma and plasma cell dyscrasias
- Hodgkin's lymphoma
- Non-Hodgkin's lymphoma – indolent
- Non-Hodgkin's lymphoma - aggressive
- MALT and mantle cell lymphomas
- Skin lymphomas
- T-cell lymphomas
- Radiation therapy in hematologic malignancies
- Chemotherapy overview
- Overview of bone marrow/peripheral stem cell transplantation
- Autologous transplants
- Nonmyeloablative transplants and donor leukocyte infusions
- Complications of bone marrow transplantation

Red Cell Disorders

- Practical red cell diagnostics clinical problems
- Sickle cell disease and sickle cell syndrome
- Thalassemias and hemoglobinopathies
- Hemolytic anemias

Thrombosis

- Antiplatelet agents and anticoagulants
- Overview of management of deep vein thrombosis and pulmonary embolism
- Venous thromboembolism, thrombophilia, and pregnancy
- Venous thromboembolism and malignancy
- Management of thrombosis in the ICU patient
- Hereditary thrombophilia
- Antiphospholipid antibody syndrome
- Management of arterial thromboembolic disease
- Perioperative anticoagulation
- Heparin-induced thrombocytopenia

Two Year Curriculum for Academic Half-Day in Hematology (Continued)

Core Content (Continued)

Transfusion Medicine

- Overview of blood products
- Peripartum diagnostics
- Transfusion reactions
- TRALI
- Alternatives to transfusion
- Apheresis
- Practical transfusion problems

Pediatric haematology

- Neonatal cytopenias

Examination preparation

- Mock oral examination scenarios

Mandatory Program-Wide Educational Activities

- Hematology Grand Rounds (every 2nd Friday at noon, September to July)
- Multidisciplinary Academic Half-Day (MAD): Periodically, the Postgraduate Medical Education Office organizes multi-disciplinary sessions for all residents on Wednesday afternoons at McMaster University. Topics may include financial planning, career planning, resident stress, and harassment. Residents are strongly encouraged to attend these sessions.
- Canadian National Hemoglobinopathy Video Conferences: These are held 4 to 5 times per year and typically involve review of an interesting hemoglobinopathy case, followed by discussion.

Hematology Journal Club

- Journal Club is organized by a resident representative with guidance from a faculty member (Journal Club Supervisor). Administrative support is provided by the Program Assistant and the Journal Club Supervisor.

Topics 2006-7 Academic Year

1. Chronic myeloid leukemia – faculty host, Dr. Brian Leber (McMaster University)
2. Endothelial progenitor cell transplantation – faculty host, Dr. David Allan (University of Ottawa)
3. Oral iron chelation therapy – faculty host, Dr. Ian Quirt (University of Toronto)
4. Quebec Platelet Disorder – faculty hosts, Dr. Catherine Hayward (McMaster University) and Dr. Georges Rivard (University of Montreal)

Topics 2007-8 Academic Year

1. Genetic and iatrogenic iron overload – faculty host, Dr. Brian Leber (McMaster University)
2. Novel therapeutics in malignant hematology – faculty host, Dr. Brian Leber (McMaster University)
3. Prophylaxis in hemophilia – faculty host, Dr. Anthony Chan (McMaster University)
4. Special Debate – Does the stem cell exist? – faculty host, Dr. Mick Bhatia (McMaster University)
5. Treatment of multiple myeloma – faculty host, Dr. Tom Kouroukis (McMaster University)
6. Fungal infections in hematology patients – faculty host, Dr. Tom Kouroukis (McMaster University)
7. Myelodysplasia: case based review of therapeutic options – faculty hosts, Dr. Brian Leber (McMaster University) and Dr. Sekers (Cleveland Clinic)

Topics 2008-9 Academic Year

1. von Willebrand disease – faculty host, Dr. Cathy Hayward (McMaster University)
2. Factor VIII inhibitors – faculty host, Dr. Anthony Chan (McMaster University)
3. Anticoagulation in atrial fibrillation – faculty host, Dr. Martin O'Donnell (McMaster University)
4. Intravenous gamma globulin in hematologic malignancies – faculty host, Dr. Irwin Walker (McMaster University)
5. Iron metabolism – faculty host, Dr. Brian Leber (McMaster University)

Academic Rounds

- Medical Grand Rounds (weekly)
- Leukemia and Lymphoma Rounds (weekly during Clinical Hematology Rotation)
- Pediatric Hematology-Oncology Rounds (weekly)
- Platelet Function Case Rounds (weekly, after Medical Grand Rounds at McMaster University Medical Centre)

Residents also participate in rotation-specific rounds, seminars, and educational sessions.

Practice Hematology Exams

- In preparation for the Royal College of Physicians and Surgeons Examination in Hematology, three practice examinations are held annually. Each winter, the Hematology Residency Program conducts an Objective Structured Clinical Examination (OSCE) for all hematology residents. The OSCE consists of several stations that test history taking, physical examination, slide interpretation, interpretation of test results, and clinical management of hematologic problems. The McMaster Hematology Residency Program also participates in the annual national practice examination held each summer. All hematology residents participate in the written and morphology components of this test; residents at the PGY5 level and above also complete a mock oral examination. The results of these tests are reviewed with the resident and should be used as a tool to guide the setting of future learning objectives - they are not used by the Residency Program for evaluative purposes. The Hematology Residency Program also pays for residents to write the on-line American Society of Hematology In-Training Examination. This examination is mandatory for PGY5 residents. PGY4 residents can chose whether or not they wish to sit this test, given its close proximity to the Royal College of Physicians and Surgeons Internal Medicine Examination.

Annual Department of Medicine Resident Research Day

- The Department of Medicine's Resident Research Day is a high profile educational and social event where residents can share their work with core internal medicine residents, subspecialty residents, and faculty. Hematology Residents are required to attend this event each year and to submit at least one abstract for consideration.

Scientific Conferences

- Subject to availability, funding is provided for residents to attend the Annual Meeting of the American Society of Hematology. The resident may chose to attend another haematology-based meeting; however, this requires approval of the Program Director. In general, the costs of review courses are not covered. Additional funding may be available for any resident who is presenting a poster or talk at another conference. as well as an additional conference, if the resident is presenting original research.
- *Claiming a Travel Allowance: A*n Expense Report form can be obtained from the Hematology Residency Program Assistant or from the McMaster University website. The resident is responsible for completing the sections pertaining to contact information and meeting details (dates, location, purpose), as well as for signing and dating the form. The Program Assistant will complete the remainder of the form detailing the expenses, based upon the ORIGINAL receipts submitted by the resident. The resident should also keep a photocopy of these receipts for their files. Please note that for airfare to be reimbursed, boarding passes/stubs are required, along with proof of payment The resident is encouraged to submit their expenses within 15 days. The time to reimbursement is dependent upon the Finance Department and has been known to take one to two months.

Ethics Curriculum

- Each rotation incorporates informal teaching in ethics around clinical cases and scenarios. Formal teaching in ethics also occurs during Multidisciplinary Academic and Hematology Half-Day sessions; and is incorporated into the Transfusion Medicine Rotation "Regulatory Issues" curriculum.
- There is a webpage resource developed by Professor Lisa Schwartz (Arnold L. Johnson Professor in Healthcare Ethics) (http://www.fhs.mcmaster.ca/ethics_in_healthcare) that contains a transfusion medicine-based case study, objectives, prompts with answers and references that residents can work through alone or in a discussion group.
- Prior to completion of training, Hematology Residents are also required to demonstrate proof of completion of McMaster University's web-based program that reviews the implications of Ontario's Health Information Protection Act legislation (http://ethics.mcmaster.ca/chart/) and the National Institutes of Health web-based tutorial about the rights and welfare of research participants (http://phrp.nihtraining.com/users/login.php).

Stress during Residency

During residency, trainees will almost certainly encounter problems and periods of stress. These problems may be related to personal life, professional life, or the program and its structure. There are a variety of support systems available to hematology residents to provide assistance with stress or personal problems.

Support within the Hematology Residency Program

Peer support through the resident group has been helpful in reviewing aspects of the program and/or resident development related to issues of stress. In addition, the Residency Program Director attempts to build a close relationship with the trainees and residents are made aware that the Program Director will make all reasonable efforts to ameliorate stressful personal, health, and work-related situations – including intervening in situations in which there is personal conflict between the resident and other faculty members.

Effective July 2006, the Division has created a stipended position, currently known as the "Resident Mentorship Coordinator". This position allows residents access to a mentor and advisor within the Department who can advocate solely on their behalf. In effect, this position will serve as an ombudsperson. Dr. Mike Trus currently fills this position.

Support through Postgraduate Medical Education and McMaster University

Support is available through the Postgraduate Medical Education Office and information about resident support systems is distributed at registration and is available on the Postgraduate Medical Education Office website. Human Solutions, McMaster's Employee and Family Assistance Provider, offers short-term counselling (e.g. legal, financial, emotional, substance abuse). The Postgraduate Medical Education Office, in conjunction with the Department of Psychiatry, facilitates confidential professional counselling services for residents, if required. Residents reluctant to use local services are assisted with arrangements for help in other communities. In conjunction with the Department of Family Medicine, the Postgraduate Medical Education Office will assist residents in finding a family physician to help with long-term personal or stress related issues.

Support outside the Academic Environment

Support services are available through the Ontario Medical Association Physician Health Program and the Professional Association of Interns and Residents of Ontario (PAIRO) Helpline. The Physician Health Program is a confidential program for physicians and their families at risk of or suffering from alcohol or drug problems (www.phpoma.org/php/www/index.html; 1-800-851-6606). The PAIRO Helpline is a 100% confidential service that is available 24 hours a day for residents in distress or others concerned about a resident (PAIRO Helpline: 1-866 HELP DOC). The PAIRO – Physician at Risk Committee also organizes one session per year of the Postgraduate Medical Education Office's Multidisciplinary Academic Half-Days, which deals with issues surrounding resident well-being.

Issues of Harassment

Harassment and intimidation includes but is not limited to unfair work demands or workload abuse, discrimination, verbal abuse, physical abuse, sexual abuse, and reprisal for having lodged or being a witness in a harassment or intimidation complaint. The Hematology Residency Program and McMaster University have zero tolerance for harassment. Both the Postgraduate Medical Education Office and the Internal Medicine Residency Program Office at McMaster University have policies and procedures to deal with intimidation, harassment, and abuse. Residents should deal with these issues in that way that makes them most comfortable – complaints may be informal (unwritten) or formal (written). No one shall be compelled to proceed with a complaint. Reprisal of the complainant for involvement in this process will not be tolerated. Confidentiality of the identity of the complainant and the respondent will be protected.

Residents have the option of discussing their concerns with the individual involved in the incident, a friend or colleague (including the Chief Resident), the family physician, the Rotation Supervisor, the Site Supervisor, the Program Director, the Residency Mentorship Coordinator, and/or the Assistant Dean, Postgraduate Education. If the incident involves human rights (e.g. based on sex, sexual orientation,

race, religion, age, skin colour, etc), the resident can also directly discuss the issue with the University Office of Human Rights and Equity Services.

If a formal complaint is submitted to the Residency Program Director, Division Director, or Postgraduate Education, University counsel will be sought in consultation with the Program Director, Division Director, and Assistant Dean, Postgraduate Education, as appropriate. If the incident falls within the University definition of human rights related harassment, the University Office of Human Rights and Equity Services will be consulted. The complaint should be made in a timely fashion (no later than 12 months from the date of the harassment. The complaint should include dates, names of individuals involved, and a full description of the event. The respondent will be notified that a complaint has been filed and, with the permission of the complainant and respondent, a meeting will be scheduled with the Assistant Dean, Postgraduate Education and/or Program Director and/or Clinical Supervisor and appropriate University counsel. The group will attempt to arrive at a negotiated process. However, if the group reaches the conclusion that no resolution is possible, both the complainant and respondent will be informed in writing within five working days of that determination. If the complainant and/or respondent are not satisfied with the decision of the group, a request may be made in writing for a formal hearing. This request will be forwarded to the Board of Governors.

Relationships with Other Agencies

If the reported incident is patient related, it must be reported to the College of Physicians and Surgeons of Ontario.

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